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ORIGINAL ARTICLES.

WANDERING KIDNEY, AND THE RESULTS OF OPERATION.*

BY CLARENCE A. MCWILLIAMS, M.D.,
OF NEW YORK;
ASSISTANT SURGEON TO PRESBYTERIAN, AND TRINITY HOSPITALS. NEW YORK.

ALTHOUGH the conditions known as movable and floating kidney were first recognized by Rayer, in 1841, it is only within the past 10 years that the subject has been more completely brought to attention by reason of the greater care employed in observing and diagnosing abdominal diseases. The general practitioner who sees the majority of these patients has been a little tardy in recognizing the possibility of the dependence of gastric and intestinal symptoms, reflex neuroses, etc., upon displacements of the abdominal viscera. It is due to the observations and deductions of the gynecologists and the specialists in abdominal surgery that particular attention has been directed to an abnormal mobility of the kidney as a frequent contributing factor, if not the actual cause of much ill-health among women. That these specialists have placed too much weight upon the importance of this condition may, perhaps, with justice be maintained; but the general practitioner who sees and treats these patients before and after operation must in the last analysis be the umpire as to the advisability or non-advisability of subjecting them to an operation. In many cases the general practitioner turns his patient over to the surgeon for operation, after he has failed in producing marked improvement by medical means. Hence the physician is the one to judge whether more is accomplished by surgical procedures than by medical means, by an impartial comparison of the conditions before and after operation; and in making this statement the admission is forced upon us that possibly the early enthusiasm with which some surgeons hailed the operation, and executed it, will not be found warranted, if we trace these patients some years after the operation. The status of the procedure is as yet an undefined one.

The following article has been written in the light of the cases presenting themselves at the Presbyterian Hospital for treatment, and is a report upon all the patients operated on for this complaint, to the number of 61. An endeavor has been made to get in communication with them all, and to examine as many as possible. Of the whole number, 61, it has been possible to get news from 45. The first operation in the Hospital for movable kidney was done on May 7, 1888.

We define a movable kidney as a displaced, and not fixed kidney, whose movements are subperitoneal; and a floating kidney as one which moves intra-abdominally, being surrounded by peritoneum, forming a mesonephron. To both classes we assign the general name "wandering kidney," as it is not possible to diagnose between the two conditions without operation. It is not recorded as verified by operation that a floating kidney (*i.e.*, one with a mesonephron) existed in any of our cases.

Frequency.—Wandering kidney is very frequent, so that it is difficult to determine what is pathological and what is normal. Its frequency is variously estimated. Küster of Berlin found that 4.41 per cent. of the women, consulting him in his general surgical practice, had pathologically movable kidneys. Goelet and Edebohls of New York each found that 20 per cent. of the women coming to them for gynecological treatment had movable kidneys. Harris of Chicago examined 126 women, and found 56 per cent. had palpably movable kidneys. Beyer of Philadelphia gives 15 per cent. of his patients as having movable kidneys. Glénard, from his experience as a physician at the Thermal Hospital, in Vichy, met with 537 cases in 4,215 patients examined, or a proportion of .14 per cent. of all patients, males and females, and 22 per cent. of all the females.

Degrees of Mobility.—The kidney normally presents respiratory movements. The mildest degree of mobility is where half of the kidney is palpable on deep inspiration, after which it slips back again under the costal arch. A marked degree exists when the whole kidney is palpable beneath the costal arch where it remains after expiration. Between these conditions we have to judge whether movability is abnormal, or not, by the symptoms suffered. The most marked degree is where the kidney is found in distant parts of the abdomen, as in the right iliac fossa or in the pelvis, and when it can be pushed about the abdomen.

Means of fixation of the normal kidney.—(1.) *Mechanical.*—The kidney surrounded by its fatty capsule lies between two layers of the renal fascia which join together on the outer, inner, and upper sides of the kidney, while at the lower pole the two leaves are lost in the loose tissue of the iliac fossa, so that there is left a weak place below. It is believed by many that the fatty capsule must undergo absorption before the kidney can become dislocated, but this is not always true, because the kidney often is sufficiently movable within the intact fatty capsule itself to become displaced; while again in other cases the normal fatty capsule, together with the kidney as a whole, may become movable and dislocated.

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* Prepared for Medical and Surgical Report of the Presbyterian Hospital, New York, Vol. V, 1902.

There is an additional strengthening of the supports of the kidney by a fine scaffolding of connective tissue stretching between the capsula propria and the renal fascia. This may readily break or stretch.

(2) *Dynamical.*—Of the very greatest importance in holding the kidney in place is the intraperitoneal pressure. This applies equally well to the other abdominal viscera. Conditions which decrease this pressure undoubtedly assist in producing mobility of the kidney.

Sex.—Among the 61 cases of our series, only two occurred in men, while 59 were among women, or 96.7 per cent.

Marriage.—Excluding the two men, 38 patients, or 64.4 per cent. of the women, were married, while 21, or 35.6 per cent., were single. Of the 38 married women, only 22, or 37.2 per cent., of the whole 59 had borne children, the average number of children to each one being 2.7. Consequently, from this it is seen that excessive child-bearing has been no factor whatsoever in the production of wandering kidney in our cases. The greatest number to any women was six, one had had five, two had had four, eight had had three, three had had two children.

Location.—

Right kidney movable in 53 cases, or 86.8 per cent.
Left " " " 4 " 6.6 "
Both kidneys " " 4 " 6.6 "

Age.—The average age of the patients was 33½ years; the youngest 17, the oldest 65.

Between the ages of 20 and 25 years there were 9 cases
" " " 25 " 30 " " " 17 "
" " " 30 " 35 " " " 14 "
" " " 35 " 40 " " " 9 "
" " " 40 " 45 " " " 9 "

Etiology.—I. Acquired.—(*a*) Due to lowering of intra-abdominal pressure.

1. After extirpation of great tumors or ascitic collections. None in our series.

2. Numerous pregnancies—not found to be an element of etiology in our cases, as only 21 out of 59 had had children, the average being only two children per person. The greatest number to any woman was six.

3. Excessive emaciation. This was found in only two cases.

4. Tight-lacing. No evidence in any of our cases at time of operation.

5. Prolapse of the uterus and vagina, with lacerations of the perineum, may possibly contribute to the reduction of intra-abdominal tension.

6. Retrodisplacements of the uterus by drawing on the ureters may possibly tend to dislocate a kidney.

These causes certainly are not of great importance in producing mobility.

(*b*) Spinal scoliosis may cause the kidney to be pushed down, owing to a decrease in the space normally occupied by it. No case illustrating this point in our series.

(c) Trauma. In only seven of our cases, or 11.4 per cent., was there a history of a trauma antedating the symptoms referable to the kidney. Two of these stated that while lifting a heavy weight something seemed to give way in the side. In the other five there was a direct fall upon the right side. If a trauma acts as a direct exciting cause for movable kidney, then it would follow that we should find it more frequently in men than in women, because the former are so much more exposed to injuries. This is not the case.

(*d*) The transitory hyperemia of the kidney during menstruation has been suggested as a possible cause of loosening of the capsules.

II. Inherited or Congenital Causes.—Probably most cases rest on congenital causes, although this is hard to prove.

III. Unknown Etiology.—Fifty cases, or 81.9 per cent., belong under this head. Probably in most cases renal mobility is due to a combination of several causes, of which we are as yet very much in ignorance.

Harris of Chicago* has made a set of interesting observations on 126 women, chosen at random, to determine what influence bodily build has on the production of movable kidneys. He maintains "that the essential cause lies in a peculiar and particular body form, characterized by a marked contraction of the lower end of the middle zone of the body, with a diminution in the capacity of this part of the body cavity. This middle zone is bounded above by a transverse plane passing through the body at the lower end of the sternum proper, not the xiphoid appendix, while the lower boundary is formed by a similar plane which cuts the lowermost points of the tenth ribs. That this diminution depresses the kidney so that the constricted outlet of the zone comes above the center of the organ, and all acts such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs, press on the upper pole of the kidney, and crowd it still farther downward; and it is the long-continued repetition, in a suitable body form, of these influences which collectively may be called internal traumata, that gradually produces a movable kidney. A distinctly movable kidney is never the immediate result of a single injury or external trauma."

Secondary changes in a dislocated kidney.—(1) Paranephritic adhesions may bind it down in an abnormal situation, so that it cannot be replaced without an operation.

(2) From kinking of ureter brought about by movements of kidney, there may be produced a hydronephrosis; and, *vice versa,* the weight of a hydronephrotic kidney may cause a dislocation of the kidney.

(3) Twisting of the renal vessel may produce passive congestion of the kidney, resulting in considerable increase in its size, as well as tenderness. May this not also predispose to structural changes in the kidney, and be the starting-point of a nephritis?

Secondary changes in other structures produced by a dislocated kidney. (1.) May press on duodenum, producing stomach dilatation, also on intestines, producing mucous entero-colitis, etc.

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* Journal of the American Medical Association, June 1, 1901.

(2) May press on bile-ducts, producing obstructive jaundice. This happened in one of our cases, or there may be typical attacks of colic simulating gall-stones, due to gall-bladder distension. Weisker calls attention to the close connection of the ligamentum hepato-duodenale to the bile-duct which lies in its sharp border; and as that fold is directly continuous with the peritoneal capsule of the kidney, it is difficult to imagine any very great displacement of the kidney taking place without an interference with the duct.

(3) Pressure on superior mesenteric vein may cause congestion in cæcum and appendix, producing symptoms resembling appendicitis. There were nine such cases in our list, in which the appendices were removed.

(4) Pressure and disturbance in the abdominal sympathetic may produce a variety of reflex neuroses from side of stomach, intestines, heart, general nervous system, genital apparatus, etc.

(5) May press on bladder, uterine adnexa and produce irritative and congestive disturbances. This is clearly shown in one of our cases. Operation relieved these entirely.

Symptoms.—1. *Subjective Symptoms.* Class 1. Those in whom the movable kidney causes no symptoms, and is discovered by the doctor in the course of routine examinations. Most of the cases belong under this category. To persons of hypochondriacal tendencies, knowledge of such a condition, revealed to them by a careless physician, may cause the beginning of complaints referred to that kidney.

Class 2. Cases with actual symptoms, which may be caused by the dislocated kidney, apart from other independent abnormalities.

(*a*) Pain. Some of the patients complain that after long standing, or unusual bodily exertion, painful sensations make their appearance, generally on the right side of the abdomen, either dull or sharp or dragging, localized over kidney, or radiating to back or chest, or very frequently down right thigh. Severe backache in 12 of our cases was complained of. Lying down commonly relieves this discomfort. In 24 of the cases the pain was localized distinctly in the right kidney region, and of a dull ailing character. In 10 of the cases the pain was sharp and renal in character, and shot down into the thigh. In 13 cases the pain was localized in the right side, and associated with severe backache. In seven cases there were attacks similar to mild renal colic, the pain shooting down into the bladder, and in four others shooting into the back, while in two cases the sharp pains shot up into the right shoulder. Nine of the patients noticed movable masses in the abdomen, and two patients felt a movable tumor on each side of the abdomen. It is the pain which sends these patients to the physician, and it is almost constantly present in some form where movable kidney is at the bottom of the trouble. Usually, however, this pain is associated with various other symptoms which may lead the physician astray. The difficulty is to decide when the pain is due solely to the movable kidney, or when to co-incident and independent causes. Sometimes lying on the left side, which allows the right movable kidney to fall over toward the left, will cause considerable pain. The pain in seven of our cases was much worse during menstruation.

(*b*) Disturbances of gastro-intestinal tract are of very frequent occurrence. In 25 of our patients a history of distinct gastric indigestion was given, extending over a considerable period; 11 others gave a history of vomiting during the severest part of the attacks of pain; 28 gave a history of marked constipation; nine gave evidences of a coincident appendicitis; one case had had attacks of jaundice; three gave a history of attacks of diarrhea.

Bramwell* reports a case with autopsy which he says shows: "1. Recurrent intermittent spasm of the pylorus may proceed to such an extent as to lead to a mechanical stenosis, causing most aggravated form of gastric dilatation. 2. That such a pyloric stenosis may be the direct result of intermittent traction of a movable kidney. 3. That an acquired movable kidney does not move up and down in a space behind the peritoneum, but carries its peritoneal covering with it, stretching the inferior reflection of the peritoneum to some extent, and gliding over the angle of this reflection, while at the same time it stretches and drags upon its superior and internal reflections, drawing these into distinct bands which directly drag upon the pylorus; and the only true remedy for such a condition is to fix the kidney." Franks described a similar case of peritoneal band stretching from duodenum to a movable kidney.

(c) Urinary symptoms in our patients were not prominent; 18 gave some history of urinary trouble. Nine said that micturition was simply increased in frequency, while in four others it was not only frequent but painful as well, two had simply occasional pain on micturition, one had attacks of incontinence, two others complained of increased frequency with occasional hematuria, while five said they passed an increased amount of urine at the end of the attack. One patient, from whose movable kidney at the time of operation a calculus was removed, had never had any urinary symptoms whatsoever. Her whole complaint was of a sharp right-sided pain. Two patients at the time of the operation had chronic nephritis. One had a suppurative pyelitis (No. 40).

(*d*) Many show symptoms of reflex neuroses of various kinds, nervousness, easily fatigued, headaches, depression, often insomnia, and cardiac palpitation; 11 of our cases were decidedly neurasthenic. Probably this number is not sufficiently large, as the presence or absence of this condition is not noted in the earlier histories.

(*e*) Some give a history of attacks like renal colic, due either to kinking of ureter, or to twisting of renal vessels. Some of our patients gave histories of attacks of fairly typical renal colic.

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* British Medical Journal, October 19, 1901.

Attacks of this character are, as a rule, immediately relieved by replacing the kidney in its proper position.

Class 3. Those in whom symptoms of dislocated kidney are only a part of a general enteroptosis. Five such cases are contained in our list, but here again the histories are probably deficient. It is a great question whether nephropexy is indicated in this condition.

2. *Objective Symptoms.*—The women suffering from wandering kidney are very frequently found to belong to an almost characteristic type. They are usually very thin, lank, and with a long-built thorax, almost emaciated; have weak musculatures, abdominal walls are relaxed and flabby, are nervous, and often mentally depressed. To establish the diagnosis, one must find a more or less movable tumor in the abdomen which has the size, shape, and consistency of the kidney. It may not be evident on the first examination, but a second or even a third observation may reveal a very evident dislocation.

A careful method of examination should be pursued and various devices resorted to before giving a definite opinion. With the patient on her back, and thighs flexed on the abdomen, the examiner, being on her right, inspects carefully the abdomen to note its appearance, and the presence of any prominence anywhere. He then palpates the abdomen gently to note any unusual condition, and then places the flat of the left hand behind and just below the twelfth rib, exerting gentle pressure forward, so as to bring the kidney into prominence. The other hand is placed upon the abdomen in front, below the border of the ribs and external to the rectus muscle. The patient then takes a deep inspiration, followed by a quick expiration, when the examiner approximates the two hands, at which time one-half or two-thirds of the kidney, if it be movable, can be grasped, and often can be made to slip upward from between the hands with a sudden jump, as it drops again into its hollow. If this does not elicit a movability of the kidney, the patient should take successive inspirations and expirations. At the end of each expiration, the front hand is crowded farther and farther in, and held stationary during the inspirations. The value of this procedure consists in the fact that the kidney, descending with the inspirations, cannot return into its niche, owing to the increasing bimanual narrowing of the opening into this hollow. In some cases the two hands will meet above the upper pole of the kidney, which may be well palpated, and the pulsations of the renal vessels felt. At times the dislocated kidney may become more apparent by having the patient sit up in bed and bend forward, or the kidney region may be palpated while the patient stands up. The knee-chest position may be utilized to cause the kidney to fall forward. In addition, the patient may lie on the left side, with the thighs flexed on the abdomen, in order to cause the kidney to fall internally and downward.

The presence or absence of normal kidney dulness, as elicited by percussion, is too uncertain to be of any differential diagnostic value.

Careful differential diagnoses must be made from diseases of other abdominal organs:

(1) Distended Gall-bladder.—There is a difference in the fixed points of the gall bladder and the kidney, accounting for the difference in direction of movability, the bladder moving from side to side, while the kidney moves up and down. With the patient lying on the left side this will become clearer. The gall-bladder lies superficially and more anteriorly. The kidney is deep in posteriorly. The gall-bladder on successive examinations will be found each time to have a constant position, while a movable kidney may be found in very varying situations.

(2) New Growths in the Abdomen, particularly Ascending Colon Tumors.—Both may lead to colicky paroxysms and nausea which cause errors in diagnosis. The movement of these tumors is limited mostly to a transverse direction, and they can be moved upward or downward to only a slight degree. Sometimes the patient gives a history of the appearance at times of a smooth, hard, ovoid body in the right abdomen, with colicky pains. This body may disappear, coincident with the subsidence of the symptoms. This is due to the periodic distention of the intestines, proximally situated to the tumor, and if the hand is quietly laid upon the abdomen till the pain subsides, one will feel and hear the gurgling of the gas as it passes the obstruction.

(3) Cancers of the Pylorus.—These cause greater cachexia and severer stomach disturbances, while the tumors are situated higher and nearer the median line, and are not variable in their successive examinations.

(4) Impacted Feces.—This tumor disappears after the exhibition of purges and enemata.

(5) Cyst of Pancreas.—This condition rarely occurs, and the tumor is not movable, nor variable in the location of its appearance.

(6) Ovarian Tumors.—These ought to be differentiated by the history and a bimanual vaginal examination.

(7) Other Kidney Affections, such as Tumors and Calculi.—Careful attention to the symptoms and examinations, particularly the urinary, will give in most cases clews to the diagnosis, while a ureteral catheterization will often clear up doubtful cases. In movable kidney, the symptoms generally subside on lying down, and replacement of the organ. If pain occurs at night and after reposition of the organ, then it is quite likely that some other kidney affection is present.

(8) "Riedel's," or "Tight-laced," Lobe of Liver.—This abnormality has been the cause of error in diagnosis and subsequent ineffectual operation. This happened once in our series.

A careful examination should be made of all the abdominal organs to ascertain their condition and position. This applies especially to the liver, stomach dilatation, position and size of spleen, state of the appendix vermiformis, and particularly the condition and position of the pelvic organs. Many of these women have associated pelvic derangements, retrodisplacements of the uterus being common, with possible prolapse of the ovaries. Too much stress must not be placed upon the movable kidney as the cause of the symptoms, to the exclusion of the possible effects of the malpositions and inflammations in the pelvis. Proper measures should be taken to correct all the abnormal conditions in the abdomen if a good result is to be looked for. Herein lies the difficulty in treating these cases, because it is difficult to determine how many of the symptoms are due primarily to the movable kidney, hence suitable for nephropexy.

Therapy.—The position of this hospital has always been a conservative one as regards the treatment of wandering kidneys. In general, perhaps, there has been among surgeons too great an operative activity in this field, because: (1) Symptoms have been referred to the wandering kidney which have, in many cases, arisen from other sources, such as the neuropathic condition, disturbances arising from the genital apparatus, alimentary canal, etc. (2) The wandering kidney is in many cases only one part of a more or less general enteroptosis of the abdominal organs, in which condition nephropexy will do but very little good, if not harm. (3) There has been too great an optimism as regards the final good results of the operation in relieving symptoms. This is clearly shown in the reports of cases followed for some time after operation, in which it is quite evident that the results, so far as a cure of symptoms is concerned, are somewhat disappointing. Results will be quoted later.

Treatment resolves itself into: (1) Therapeutical. (2) Mechanical. (3) Operative.

Following Israel, it is our belief that the only absolute operative indication occurs in those cases having colicky attacks which are the result of pulling or kinking of the pedicle, particularly if these attacks are accompanied by temporary or lasting retention. In the remaining cases, non-operative methods first are to be employed, and these will in most cases relieve very considerably, if not cure. In the event of their failure, operation is to be advised.

In laying out a therapeutical line of treatment, the first requisite is to ascertain the exact condition of all the bodily organs, more particularly the nervous system, the gastro-intestinal functions, the genital apparatus, the position of the abdominal organs, etc.; after which means are applied to combat the abnormal conditions. The patients must be prevented from overanxiety and worry, and are to be encouraged to look for a favorable outcome.

The general health and weight may be increased by the Weir Mitchell rest-cure and forced feeding, which will also improve the nervous symptoms. Atony of the abdominal walls, displacement of the intestines, with deficient peristalsis and tendency to gas-formation, will be combated by massage, gymnastics, electricity and hydrotherapy, bandages and tonics. Long standing should be interdicted. Women whose symptoms, referable to wandering kidneys, are worse at the menstrual periods should remain in bed some days before and during the period. General treatment should always be combined with mechanical treatment, which consists in the application of some kind of an abdominal supporter. A cushion alone in front to support the kidney had better not be employed, because it generally will not succeed in holding the kidney in place, and, secondly, its pressure on the kidney may be dangerous, causing albumin, casts, and red-blood cells to appear in the urine. Any arrangement to bring relief must provide for an equal increase in the whole intra-abdominal pressure, and must take the place of the lost tone of the relaxed abdominal wall, and raise up a hanging abdomen. An equable increase in the intra-abdominal pressure decreases the possible excursion of the kidney. An elastic corset to meet these indications is made as follows, and I take the description from Israel, of Berlin: The corset is made of material similar to an elastic stocking, and is woven to fit each patient. The median closure line is strengthened by a steel spring. The corset extends as high as an ordinary corset, and as low as will allow the sitting posture without discomfort. From corresponding portions of the corset, just above the symphysis, go to each side two broad elastic girdles which encircle the pelvis just above the inguinal folds and are fastened to two short pieces attached to the sacral region. These elastic girdles are intended to raise up the lower abdomen. A second pair of girdles runs around the flank, starting from the same place as the first pair, one on each side, obliquely upward and outward between the iliac crest and the ribs, and are fastened with hooks and eyes behind at the height of the middle lumbar vertebra. Through these obliquely upward-running girdles a particular elastic pressure is exercised upon the entire territory into which the kidney can sink. This pressure, if thought best, can be increased through a three-cornered air-cushion fastened to the inner side of the corset in this manner—the upper slightly concave edge lies just below the costal arch. Its rounded point fills the interval between this and the iliac crest, while its median base reaches to the mammillary line. Over this cushion runs the upper girdle, and presses dorsally and upward the covered part of the abdomen. This supporter is put on before arising in the morning, the buttocks being elevated, and after crowding the abdominal contents upwards.

A less expensive procedure is that devised by Gallant, who has the patient obtain one of the at present fashionable straight-front corsets, two sizes smaller than usual. The patient is advised not to get up in the morning until she has applied the corset, which is put on with the pelvis elevated, the kidney having been replaced in its proper position. The corset is hooked from below up, at the same time crowding all the abdomen upward within the corset as it is hooked.

Persons with movable kidney may be the victims of attacks apparently very similar to renal colic, so called Dietl's crises. Examination may show a dislocated kidney, tender and largely increased in size. These attacks may last for hours or for days, to end suddenly on the return of the kidney to its normal position. This is often followed by the passage of an increased amount of urine, which may previously have been scanty. This condition is due either to kinking of the ureter, or twisting of the renal vessels, or, perhaps, more often, to a torsion of the whole pedicle at once, vessels and ureter together. The palliative treatment of these attacks is to replace the kidney, and to undo the twist of the pedicle. To accomplish this latter, the mechanism of its origin must be understood. The wandering kidney turns about its transverse axis, in such a way that the lower pole of the descending kidney finally impinges upon the anterior abdominal wall, and this prevents its farther descent. If the upper pole still farther descends without change in position of the lower pole, then the upper pole must come to a lower level than the lower one, *i. e.,* twisting of the kidney about its transverse axis, the pedicle acting as this axis, which will only be increased by any muscular contraction of the abdominal walls. To arrive at this abnormal position, in which the lower pole is turned forward and upward, the uper pole behind and below, the arc of rotation has been from 80 to 180 degrees, which is amply sufficient to cause severe circulatory disturbances in the relatively short pedicle. If this view of the etiology is correct, then treatment (with the patient recumbent and hips elevated) consists in grasping the kidney tumor in front and behind with the hands, and in seeking to give it such a turning that the lower pole, which has become temporarily the upper and forward one, then will descend along the inner side of the anterior abdominal wall while the upper one, temporarily the lower, will ascend along the front surface of the posterior abdominal wall, to return to its hollow beneath the diaphragm. This procedure is eminently rational in the suitable cases. Should, however, as some maintain, the twisting of the pedicle take place in the opposite direction then a reversed method of treatment is necessary.‡ If these procedures do not replace the kidney, then the recumbent position should be maintained till the attack is over. In the case the attack grows worse from day to day, then operation, nephropexy, is indicated. Should this be refused by the patient, then the fluid in the sack may be drawn off retroperitoneally by an aspirating syringe, in the hope that relief from pressure may result in relief of obstruction.

Operative Procedures.—If after thorough trial of therapeutical and supporting measures, the symptoms referable to the kidney still persist, then our only recourse is to operate, but the patient must be cautioned against expecting too much from the nephrorrhaphy, and a guarded prognosis given to avoid future disappointment.

Technic.—Two varieties of nephropexy have been employed in the Presbyterian Hospital, depending upon the operator. One method is as follows: A longitudinal lumbar incision is made with the patient in the semiprone position, an air-cushion being placed beneath the opposite ilio-costal space, which makes the ilio-costal region on the side to be operated upon as broad as possible. The incision extends from the lower rib to the iliac crest, the lumbar artery encountered is cut between clamps, and the nerve with it is pushed to one side and not cut. This exposes the outer body of the quadratus lumborum muscle. A deep retractor holds the outer edge of this muscle internally. The fatty capsule surrounding the kidney now presents in the wound, and it is opened longitudinally, and the kidney located within this fatty capsule, which is then stripped off from the anterior and posterior surfaces of the kidney. With an assistant exerting pressure on the anterior abdomen against the kidney, an endeavor is then made to bring the kidney out into the wound, so that it may be inspected and palpated thoroughly for any existing pathological condition, either in its pelvis or parenchyma. The fibrous capsule lying close to the kidney is incised, either along the convex outer border, or on the posterior surface of the kidney, and the edges of the capsule on either side of the incision are dissected off from the kidney, making two small strips of capsule between which is raw kidney tissue. Three chromicised gut sutures on a carpet-needle (to prevent oozing) are then passed directly through kidney parenchyma beyond the raw area, *i.e.,* from anterior to posterior surfaces, well within the convex border, at intervals of about an inch. The highest of these sutures is often passed around the lowest rib at a point where the periosteum has been reflected from its surface. This prevents opening of the pleura. The other chromic gut sutures are then passed through the lumbar fascia and the quadratus lumborum muscle, but not tied. The small strips of fibrous capsules are then sutured by a few chromic gut sutures to the fascia and muscle on each side of the lumbar incision, leaving the raw place between these strips. Then, finally, the parenchyma sutures are tied, and the kidney is held well up under the last rib A narrow gauze strip surrounded by a cuff of rubber tissue is inserted down to the kidney. This is important for two reasons: 1. It acts as a drain. Should a blood-clot form between kidney and muscle, then the kidney would be separated from the muscle, which might prevent proper union, a result most important to obtain. 2. The drain acts as an irritant and thus favors the formation of connective-tissue adhesions between the kidney and the muscles. The incision is then sutured carefully in layers in order to prevent lumbar hernia, a result which has more than once occurred. This method has been mainly employed by Dr. McCosh. Transfixion of the kidney by the sutures has found many advocates, among whom are Israel of Berlin, Kocher, Tillmann, Stimson, Kelly, etc. The objections advanced by its opponents have been: The possible danger of infecting the kidney tissue, and the damage done to the parenchyma itself by the presence of the sutures, possibly resulting at times in pulmonary emboli and chronic changes.

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‡ Owing to the difficulty of correct diagnosis as to the direction of this revolution, care must be exercised in these manipulations lest the twist of the pedicle be increased instead of decreased.

In addition to the parenchymatous sutures, Dr. McCosh, according to the suggestion of Dr. Morris, for the past year has been reflecting a large-sized strip of the fibrous capsule from the posterior kidney surface, leaving it attached at the convex border. This strip is then inserted into a split made in the quadratus lumborum muscle, and there sutured with chromic catgut sutures. Then the parenchymatous sutures are passed and tied. A gauze drain is inserted down to the kidney. Dr. McBurney, Dr. Briddon, and Dr. Eliot have used the following method: Same vertical incision as above, and kidney exposed and drawn out into wound. Fibrous capsule is split on its posterior surface, and two flaps of about the size of a fifty-cent piece raised up from the kidney substance. Each one of these flaps is then sutured to the deep edge of the lumbar incision with interrupted chromic gut sutures, which take in their grasp some portion of the muscles. A gauze drain is inserted down to the raw area of the kidney, followed by a careful closure of remainder of wound, so as to prevent the development of a subsequent hernia. No parenchymatous sutures are used.

After-treatment.—The patient should remain flat on her back without turning for three weeks. During this time she should make no muscular exertion whatsoever, as this might tend to disturb the adherence of the kidney to the lumbar wall. The gauze drain in the wound may be withdrawn little by little at each dressing, beginning about the fourth day, till the gauze is completely removed by the tenth day, or may be removed entirely at the end of twenty-four or thirty-six hours. The patient should be kept in bed for at least four weeks. It seems to me that it would be well to keep the foot of the bed elevated for two weeks after operation, so as to be doubly sure that the kidney is held in its proper position while adhesions are forming. After leaving her bed, she for six months should be cautioned against muscular labor involving lifting, etc., and it is possibly best to have the patient wear an abdominal supporter to keep the abdominal viscera in place.

Nephrectomy is to be done only in very exceptional cases, chiefly when the organ is diseased as well as movable. Extirpation has been done most frequently for hydronephrosis in a movable kidney. One must always be sure, before extirpating a kidney, that the opposite kidney is in a sound condition. Two cases which had had nephrorrhaphies without benefit so far as the cure of their symptoms went, had subsequent nephrectomies performed also, without any benefit.

Mortality of the Operation.—Of the 61 patients operated upon, two died as a direct result of the operation, or 3.2 per cent.—one, No. 48, died four days after the operation, of septic peritonitis, revealed by autopsy; the second, No. 53, died on the 10th day post-operatively, very suddenly of pulmonary embolism, although there was no autopsy to confirm this diagnosis. This latter patient had been doing well, with no unfavorable symptom—no temperature nor apparent infection. Urine showed heavy trace of albumin. On the 10th day, without premonition, she became cyanosed and dyspneic, and died in twenty minutes. This mortality will surely in the future become smaller than the above figures, which are about double more than they should be, since the death from septic peritonitis was exceptional and should have been avoided. There are not sufficient dangers in the operation itself to prevent our recommending it to patients who really stand in need of it.

Results as to Relief of Symptoms after Operation.—The cases reported upon were all those who have ever been operated upon for movable kidney in the hospital, a period of time extending from May, 1888, to April, 1901; none reported upon have had the operation performed later than six months ago. Of the 61 cases, two died in the hospital as the result of the operation, leaving 59 to consider. One other died two months after the operation, of rapid phthisis, which leaves 58. Of these 58 patients, 42 have been able to be reached personally or by letters, and in many cases personally examined or a report of examination bv their physician has been sent. Of these 42 cases, 22, or 52.3 per cent., have said that they were cured of the symptoms dependent on the movable kidney, while 15, or 35.7 per cent., have reported that they were benefited, eight of these greatly benefited, seven only slightly, while five or 10.9 per cent., have not been improved at all by the operation.

It has been well said that statistics may be made to prove anything but facts, so that I refrain from drawing too strong conclusions from these few cases. It is unfortunate that it has been only so recently recognized that the other abdominal viscera may be associated with movable kidney, consequently the older histories do not contain any reference to the condition and position of the other abdominal viscera; hence we are unable to tell how many of our cases were associated with more or less general enteroptosis. Of the later histories, five are noted as having a general enteroptosis. One of these had a double nephropexy at the Presbyterian Hospital, but with slight relief of symptoms. The other complications mentioned in the records are the following: Gastric indigestion nearly heads the list and affected 25 patients, constipation was complained of by 28 patients, nine had had attacks of appendicitis, and the appendices were removed in all nine at the time of the nephropexy. Three were subjects of attacks of diarrhea, one of attacks of jaundice, 11 patients were suffering from pronounced neurasthenia, one patient had had all her life attacks of chorea, two patients had markedly retroflexed uteri, two had badly lacerated perinea, one a slight prolapsus uteri, two were very anemic, one very gouty, two had chronic nephritis, one patient had a movable kidney from which a stone was removed at the time of the nephropexy, one had a suppurative pyelitis, two had herniæ, both being right-sided femoral.

Of the five patients who had general enteroptosis, or Glénard's disease, two were only slightly benefited, another greatly improved by the nephropexy, one of the former had a double nephropexy; two were entirely cured of subjective symptoms; of the four patients with double nephropexies, two were entirely cured, while two were not heard from; of the 11 neurasthenics, five say they were cured of kidney symptoms as the result directly following the operation, one was not in the slighest degree benefited, two were greatly benefited, while two were only slightly benefited.

Results as to improvement in symptoms of the nine cases with coincident appendicitis cannot be given, as two died shortly following the operation, three patients cannot now be found, while, of the four remaining, three were cured, the other being much improved.

The choreic patient is improved, but not cured.

One case who had retroflexed uterus has been cured, one other has not been heard from, one case with lacerated perineum was cured, one other not heard from, while the patient with prolapsus uteri was cured of her abdominal symptoms. One patient suffered from excruciating dysmenorrhea causing her to be in bed for two days. Between periods there was also more or less soreness in right ovary. The kidney before operation was found in right iliac fossa. Operation entirely relieved the dysmenorrhea, and periods are now passed without any pain. One patient with chronic nephritis was cured of her abdominal pains, but died 15 months later of the organic trouble. The other patient (operation two years ago) is still living; was improved by operation, but not cured of her pain, nor did the urine clear up. The patient with movable kidney from whose kidney a calculus was removed at operation has been entirely cured of all symptoms, *i. e.*, pain.

Twenty-three cases, or 34.4 per cent. of the whole 61 cases, had complications with their movable kidneys, exclusive of gastro-enteric symptoms. Ten of these, or 43.4 per cent., were cured of symptoms. Nineteen cases, or 31.1 per cent. of the whole number, were uncomplicated, and of these, 12 cases, or 63.1 per cent., were cured.

Improvement was seen in many of the cases only months after the operation. In general, we may say that the cures are most frequent in those cases where pain is the only or chief symptom complained of, unless the diagnosis be wrong; the operation is less successful in relieving gastro-intestinal symptoms, and least satisfactory in nervous disorders.

Results as to Permanency of the Fixation.—Thirty-six of the 42 patients have been examined within the past two months. Out of this number, movability of the kidney has recurred in six cases, or 16.6 per cent.

Two cases had nephrectomies subsequent to the nephrorrhaphies on account of persistent severe pain, this, too, notwithstanding the fact that the fixation had been permanent. The subsequent operations caused no diminution in the symptoms, nor any benefit.

The urine after almost all the nephrorrhaphies has shown, very nearly invariably, marked temporary disturbances, such as the appearance of albumin in amounts varying from one to ten per cent., numerous casts, and in many instances blood-cells.

Results of Operation.—Out of 42 cases able to be followed, 22, or 52.3 per cent., were cured of subjective symptoms; 15, or 35.7 per cent., were benefited; five, or 10.9 per cent., received no benefit whatsoever.

Uncomplicated: 19 cases, or 31.1 per cent. of the whole 61. Of these, 12, or 63.1 per cent., were cured. Complicated: 23 cases, or 34.4 per cent. of the whole 61. Of these, 10, or 43.4 per cent., were cured.

Recurrence occurred in six cases out of 36 examined, 16.6 per cent.

Mortality of operation: two cases in 61 operations, or 3.2 per cent.

Comparison of Methods of Operation.—(See Description of Operations.)

Parenchymatous sutures used in 27 cases.

13	patients,	or	48.1	per cent.	cured
10	“	“	37	“	improved
2	“	“	7	“	no benefit
2	died,	“	7	“	

Recurrence, 4 out of 23 examined, or 17.3 per cent.

No parenchymatous sutures used in 17 cases.

9	patients,	or	52.9	per cent.	cured
5	“	“	29.4	“	“
3	“	“	17.6	“	no benefit

No mortality.

Recurrence, 2 out of 13 examined, or 15.4 per cent.

Statistics of Other Operators.—Keen: 134 cases, 63, or 47 per cent., were cured; 21 improved; 19 failed; mortality, 2.98 per cent.

Frank: 39 cases, with 21 cures, or 53.7 per cent.

Sulzer and Reinboth: 93 nephrorrhaphies; cured, 55.9 per cent.; improved, 9.7 per cent.; recurrence in 15.1 per cent; no success in 16.1 per cent.; death in 3.2 per cent. from operation.

Albarran: 64 per cent. successful; 14 per cent. partially successful; 22 per cent. failures.

Neumann: 65.3 per cent. successful; 10.3 per cent. partially successful; 22.07 per cent. failures.

P. Wagner: 51 per cent. lasting and complete cures; 15 per cent. partially successful; 20 per cent. failures.

Küster: 85 cases, 58.8 per cent. cured; 4 affected were men, none of whom was cured; 81 were women. Uncomplicated, 34, or 41.9 per cent. Of these 29 were cured, or 85.2 per cent. Complicated, 47, or 58.1 per cent. Of these, 21 were cured, or 44.6 per cent. Mortality: two deaths from pulmonary emboli, or 2.3 per cent.

Résumé—Presbyterian Hospital Statistics of Movable Kidney.—Total, 61 cases: 2 occurred in men; 59, or 96.7 per cent., in women; 38, or 64.4 per cent., were married women; 21, or 35.6 per cent., were single women. Of the married women, 22, or 37.2 per cent. of the whole 59, had borne children. Average number of children to each, two.

Right kidney movable in 53 cases, or 86.8 per cent. Left kidney movable in 4 cases, or 6.6 per cent. Both kidneys movable in four cases, or 6.6 per cent. Average age was 33⅓ years; youngest, 17; oldest, 65 years. Trauma antecedent in only seven cases, or 11.4 per cent.

Complications.—Femoral hernia in two. Gastro-intestinal indigestion in 25. Marked constipation in 28; diarrhea in three. Jaundice in one. Chronic appendicitis in nine. Urinary symptoms in 18. Renal colic in seven. Renal calculus in one. Pyelitis in one. Chronic nephritis in two. Neurasthenia in 11. General enteroptosis in three. Uterine abnormalities in five.

Results of Operation.—Forty-two cases followed after operation showed 22, or 52.3 per cent., cured of subjective symptoms. Fifteen, or 35.7 per cent., benefited; five, or 10.9 per cent., no benefit.

Uncomplicated: Nineteen cases, or 31.1 per cent., of the whole 61. Of these 12, or 63.1 per cent., were cured.

Complicated: Twenty-three cases, or 34.4 per cent. of the whole 61. Of these, 10, or 43.4 per cent., were cured.

Recurrence occurred in six cases out of 36 examined, or 16.6 per cent.

Mortality of operation: Two cases in 61 operations, or 3.2 per cent.

50 East 53rd Street.

THE NERVOUS MANIFESTATIONS OF MOVABLE KIDNEY.*

BY A. L. BENEDICT, A.M., M.D.,

OF BUFFALO.

Several series of observations on the frequency of movable kidney are now available. The first series reported here consists of 57 ward patients at the Buffalo Hospital of the Sisters of Charity, suffering with various ailments. Of 23 males none had movable kidneys, though about half were convalescent from typhoid when the tissues are relaxed. Of 34 females five had a movable right kidney. Two of the first degree and one of the second occurred in middle-aged multiparæ who had never lost weight suddenly. Of these three two were uncomplicated with other abdominal ptoses, one (of the second degree) had an atonic dilatation of the stomach which reached to the umbilical equator. The fourth case occurred in a girl of thirteen years, with chronic pleurisy. The fifth case occurred in a single woman twenty-six years old, who had lost weight from 170 to 140 pounds. Neither of these presented complications in the abdomen.

Of 200 males examined in private practice 17 had first degree right kidneys, and of the 17, four had also the same lesion of the left side, in the same degree. None had ever been fleshy, except one man who had lost from 187 to 157 pounds, and had gained again to about 165. In only one other had any notable decrease of weight occurred, namely, from 153 to 137. Six of the 17 presented marked nervous manifestations.

———, aged twenty-one years; no other organic lesion; venereal and nicotine excess; was referred on account of subclavian bruit which had been diagnosed as aneurysmal but which seemed to me merely functional. Several other patients, not mentioned in detail, presented similar throbbing in various vessels, flashes of heat, flushing and similar vasculo-paretic symptoms.

———, aged sixteen years, was an overgrown and sexually precocious boy over six feet in height. I imagine that such cases will ultimately be connected with pituitary disease. He had an atonic, gastric dilation with catarrh and stagnation, which was cured. He was morbidly egoistic and his mental condition grew worse till he developed acute mania. After his discharge from the asylum he contracted syphilis and is again insane, perhaps, this time, on account of cerebral syphilis. He had a double inguinal hernia and presented a proportionate eosinophilia of about 6 per cent., which I have found rather characteristic of nervous states bordering on insanity, and which has, I believe, been found by some observers in a notable percentage of asylum inmates.

———, aged forty years, was a seventh-month child, always under-sized, puny and nervous. The liver was small, though perhaps not sclerotic, and the stomach reached from the seventh rib to one and one-half inches below the umbilicus. Regarding the nomenclature, I would urge that the term gastroptosis be limited to conditions in which both curvatures of the stomach are low and I regard any stomach which reaches to the seventh rib as normal in this regard. The greater curvature is normally at least three-fourths of an inch above the umbilic equator, drawn tangent to the upper edge of the umbilicus. Sagging of the greater curvature alone indicates dilation distinguished as atonic and that due to obstruction at the pylorus.

———, aged twenty-eight years; epilepsy from first dentition; suspicion of head injury and possibly signal symptom in left latissimus dorsi. Marked indicanuria and temporary achylia, probably due to bromide depression. In spite of his drawbacks this patient was a very successful business man. Two other cases were also very nervous, but they had hepatic sclerosis and one also chronic colitis. Neither presented any other dislocation of viscera.

It may be said here that I do not regard the nervous condition as a result of the first degree kidney lesion alone, but would rather suggest that the causal relation was reversed. At any rate I am not trying to ascribe all the psychic ills and nervous depression that flesh is heir to, to movable kidneys, but simply to present actual findings.

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* Presented to the American Gastro-enterological Association, in Washington, May 1, 1902.

Of 169 females examined 65 presented movable kidneys and two others depressed and palpable but fixed right kidney. A number of others had right kidneys that could be oscillated a trifle but scarcely enough to be considered movable, even in the first degree, or to produce symptoms. These cases were divided naturally into two groups, 35 cases in nulliparæ, none of whom were or had been distinctly fat and all but five of whom were of slight build; and thirty-two cases in multiparæ, including the two cases of fixed but depressed right kidney, and two patients who had recently borne one child each and who had probably had the renal condition of nulliparæ.

Of the 35 nulliparæ 23 were single and there was no reason to suspect pregnancy in any. Among the married women only one early miscarriage was reported and five gave a pretty distinct history of sterility, in spite of the absence of precautions. There are two common types of women with movable kidney; one infantile, delicate, of feeble resistance and suggesting that their vague nervous symptoms are due to actual lack of space for the important nutritive organs. Four cases had lost somewhat in weight, but scarcely to a sufficient degree to explain the looseness of the kidney; two had gradually gained weight. In only two cases was there gastroptosis, associated in each instance with a second degree right kidney, and in one case with a first degree left kidney also. In the one the stomach reached from the seventh space to one-fourth inch above the equator; in the other from the eighth rib to the equator but rising after a few days' treatment with antiseptics to the seventh rib and a parallel one-fourth inch above the equator. All of these cases were nervous in a general sense and complained of back-ache, dragging in the loins, etc. The following six presented marked nervous symptoms:

Miss ———, aged twenty-eight years; prematurely gray; of morbid and retiring disposition; had a third degree right kidney. She was apparently very anemic but the red cells measured 42 per cent. There was a slight multiformenuclear leucocytosis probably due to ulceration around carious teeth, which she had neglected from dread of operation. She was most happily situated financially and socially and was engaged to be married to a gentleman of whom she was very fond. Although she was assured that the only essential trouble was the movable kidney, and in spite of favorable progress, she committed suicide. She had shown no indications of genuine insanity.

Miss ———, aged thirty-one years, had a second degree right kidney and a typhlitis persisting for several years after removal of the appendix. She had had insomnia for two or three weeks and had been profoundly impressed with the newspaper notices of the preceding case, and suspected her true condition and feared suicide.

Miss ———, aged forty years, gave a history of protracted nervous dyspepsia and had been much blamed by her family for not recovering her mental and physical tone. She had a second degree right kidney; her stomach extended from the seventh rib to the equator and the pelvic organs were reported low by a gynecologist who was disposed to consider the abdominal features as insignificant. She was in a terribly morbid state so that I feared suicide, and though she had come to Buffalo expressly for diagnosis and treatment, she had not the energy to adopt either the operative or palliative measures offered. She has remained in about the same condition for two years.

Miss ———, aged thirty-four years, but appearing much younger, has a second degree kidney on each side. Her appendix is palpable and she has a chronic typhlitis. Her nervous state is weak rather than morbid, and she is making some improvement while wearing a bandage and having appropriate treatment of the bowel.

Mrs. ——— and Mrs. ———, physicians' wives, aged about thirty-five years, had respectively third and second degree right kidneys. The former had had her appendix removed two years previously. She gave a distinct history of a strain followed by the giving way of something in the right side and, almost immediately afterward, I found her kidney loose. This is the only case in which I have been able to recognize a definite traumatic cause, though most patients, especially those of the working classes, will give a history of heavy lifting. Both patients were extremely nervous and irritable; the former often violently hysteric, and they also had the usual local nervous symptoms. Both are now considerably relieved, the former by radical operation; the latter by a bandage. By the way, this list of twelve married nulliparæ includes five physicians' wives, while the following list of parous women includes three more, and there are two or three others of whom I have no accurate data.

The 32 parous women include only one to whom dangerous nervous symptoms can be ascribed. This patient had a mild atonic gastric dilation and cardiac dilation with aortic direct and mitral regurgitant, not due to rheumatism or any other known cause, including other infections. She has been insane for several months, the insanity gradually developing as in the case of the young man.

These 32 parous women were of various builds. Eight had lost weight notably, but one had gained again without relieving the condition of the kidney, while two others had only first degree movability. One of the later cases and an additional one had emaciated on account of cancer. Fourteen cases showed moderate atonic dilation; five true gastroptosis; two obstructive dilation due to pyloric cancer; one a marked degree of atonic dilation, simultaneously with uterine cancer which was effectually removed, the patient having now survived three years. In another case the stomach was high enough but vertical. In three others there was enteroptosis or, at least, sagging and protuberant abdomen, but the gastric area was normal. In one of the cases of mild, atonic dilation, Dr. C. D. Aaron had previously diagnosed and cured a gastroptosis.

One patient, aged thirty-one years, the mother of two or three children, had a second degree right kidney and a typhlo-colitis. After wearing a bandage and having appropriate internal treatment for a few months, she was cured, the kidney being almost absolutely firm. In other cases, functional relief followed the wearing of a bandage, even when the kidney remained as movable as before; and the relief sometimes has persisted after discarding the bandage, the nerve endings apparently being enabled to overcome their sensitiveness and to acquire a tolerance of further mechanic insults, as in the case of external bruised parts, like the perineum of horsemen and wheelmen. All of these cases, though not mentioned as presenting dangerous nervous symptoms, were considered to be hysteric, neurasthenic, etc., and all but a few had definite functional dyspepsias of one form or another; the remainder had organic lesions or, as in a few instances, were referred simply on account of a suspected kidney lesion. None of the cases here reported had evidence of true nephritis. On the other hand, I know of no nervous symptom that may not also be found in patients without movable kidney and the same may be said of etiologic factors commonly connected with movable kidney, including the predisposing causes of bodily conformation.

Of the 65 cases, 25 had movability of the first degree only, but six of the 25 were affected on both sides. None of these presented nervous symptoms of any great severity, though often troublesome enough to the patient and her family. The remaining 38 cases, excluding the two in which the kidney had become spontaneously fixed or had been congenitally displaced, included one of insanity; one of suicide; two of contemplated suicide; at least two in which the family relations were seriously threatened by the nervous trouble; two of gastric ulcer with its typic nervous state; one of hyperkinesis gastrica; one of general failure of secretory function and other indications which had led to the tentative diagnosis of Addison's disease; six not already counted, in which the diagnosis of nervous prostration or some equivalent term had been assigned and without other adequate explanation. Excepting a few of the men and a few women of the working class, all of the 82 cases emphasized their nervous condition. It is also perhaps significant that so large a percentage as 8½ in men and 38.4 in women, should be met with in digestive practice.

It is noteworthy that in only one of the 82 cases was the term general splanchnoptosis applicable and, even here, the liver was only slightly prolapsed; the left kidney was firm and the stomach was really not prolapsed as a whole but only relaxed. Of course, if we call every case of flabby belly enteroptosis, and every case of sagging of the greater curvature of the stomach gastroptosis, it is obvious that these two very common conditions will be added to a considerable percentage of cases of nephroptosis. Taking the whole series of 84, including the two of fixed kidney, the right kidney alone was involved in 65, the left alone in four, and both in 15.

THE MODERN TREATMENT OF THE MORE COMMON TRAUMATIC INJURIES OF THE EYE.*

BY CHARLES J. KIPP, M.D.,
OF NEWARK, NEW JERSEY.

IN all cases of suspected injury to the eyeball it is advisable to secure cleanliness of the skin of the lids and the surrounding parts before we proceed to examine the eye. It is a well-known fact that in the free edges of the lids and the eyelashes numerous pathogenic micro-organisms are to be found at all times, and it is necessary, therefore to remove, them as much as possible, especially if a wound is suspected, in order to prevent septic infection. This is best accomplished by rubbing the free edges of the lids with bunches of absorbent cotton or sterile gauze wet with a solution of 1 per cent. of carbonate of sodium, till all loose epidermis is removed, and to finish with a solution of bichloride of mercury, 1 in 1,000, applied in the same way. If the lashes are long, it is best to cut them short with scissors. The skin of the lids, if this is grimy, should be cleansed with sulphuric ether, then with carbonate of sodium solution, and last with alcohol. In all cases of injury to the cornea a very careful search should be made for disease of the lacrimal sac, as the secretion contained in the sac contains the pneumococcus in great quantity, which, if brought in contact with the wound of the cornea, is pretty sure to infect it and cause extensive ulceration, which may lead to loss of vision and probably to total destruction of the eyeball from panopthalmitis. If the sac is pressed upon firmly in cases of blennorhea of the sac, purulent secretion will escape either from the lower or upper punctum. In such cases steps must be taken at once to cure or at least to arrest the lacrimal disease. The lower or upper canaliculus should be slit with a knife made for that purpose or with scissors, and the wound must be kept open by passing a probe along its entire course at least once a day for several days. This opening will enable the pus to escape more freely when the sac is pressed upon. In most cases it will be found sufficient to empty the sac by pressure every two or three hours and to carefully wash the pus out of the conjunctival sac with sterile water or a weak solution of bichloride, 1 to 10,000. If the secretion is very profuse, the sac must be syringed out with salt water or a solution of bichloride, 1 to 1,000, or protargol, 20 per cent. Some surgeons think it best to split the sac itself and to pack it with gauze, at the same time dusting iodoform powder in the conjunctival sac. It is also well known that the conjunctival sac contains pathogenic micro-organisms at all times, and that we cannot kill them by antiseptics without at the same time doing serious injury to the eye. The best one can do is to reduce their number by mechanical means. Normal salt solution, or sterile water, or a solution of boric acid should be used for flushing the conjunctival sac, and the furrows cleaned as much as possible by passing wet sterile cotton through them.

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* Read before the Somerset County (N. J.) Medical Society, April 24, 1902.

To enable us to make a thorough examination of the eye and its appendages, as well as for the relief from the pain, local anesthetics are now used very freely. A 4 per cent. solution of cocaine or eucaine and a 1 per cent. solution of holocaine are mostly used for this purpose. Whichever solution is used, it must be sterilized by boiling shortly before it is used. In many cases it will be necessary to apply the remedy four or five times, at intervals of a few minutes, before the irritability of the eye has sufficiently subsided to allow of a prolonged examination, and during this period the lids must be kept closed, as otherwise the cornea will become dry and patches of the epithelium will be thrown off. As to whether it is best to commence the instillation of the local anesthetic before or after the cleansing, will depend on circumstances. My rule is that if I can get the drops in the conjunctival sac without their coming in contact with the free edges of the lids and lashes, I do so at once; otherwise I delay the instillation till the lids have been cleansed. Except in children and very nervous persons, a general anesthetic is not necessary for a thorough examination of the eye in such cases. For the examination of the anterior half of the eye it is best to darken the room; a bright oil or gas lamp, preferably with an Argand burner, should be placed on a level with the eye to be examined, and about a foot and a half to the side and in front of it. A convex lens of two and one-half or three inches' focus, one and one-half to two inches in diameter, is held between the surgeon's forefinger and thumb, about two inches from the patient's eye, and the light is concentrated upon the cornea by slight movements of the examiner's hand; the cone of light can be passed over every part of the cornea and the iris. In most cases it is of advantage to examine the eye through a second lens of nine or 10 inches' focus and four inches in diameter, placed in front of it. An ordinary botanical loupe will answer the same purpose.

If the method here prescribed, called oblique, or focal, illumination cannot be resorted to, the patient should be placed with his face before a large window, but not be exposed to the direct rays of the sun, so that an image of the window is seen upon the cornea. By watching the image while the eye is moved in various directions, the slightest irregularity of the corneal surface can be discovered and wounds or foreign bodies be seen without much difficulty. If lenses are at hand, they may be employed with great advantage in the manner described for oblique illumination by artificial light.

Blows on the eye from blunt instruments may result in mere contusion of the lids, the well-known black eye, in an abrasion of the corneal epithelium, rupture of the eyeball, ecchymosis of the ocular conjunctiva, hemorrhage into the anterior chamber, rupture of the iris, paralysis of the sphincter iridis, dislocation of the lens in the anterior chamber or vitreous chamber, partial dislocation of the pupil, rupture of the lens capsule, hemorrhage into the vitreous, rupture of the choroid, hemorrhage into the retina, and optic neuritis. If the injury involves the globe cocaine may be used to alay the pain, and if the iris shows signs of inflammation the pupil must be kept widely dilated by frequent instillations of atropine. Cold applications to the lids will be useful in most cases, and abstraction of blood from the temple will assist in subduing the inflammation. Injuries involving the crystalline lens, the deeper structures of the eye, and especially rupture of the eyeball with or without the escape of the lens and vitreous, should be treated by a general practitioner only if no ophthalmologist is available. Sympathetic irido-choroiditis is not very rarely seen after this injury, and enucleation is about the only remedy to prevent its occurrence in most cases.

Subconjunctival hemorrhage is most frequently the result of a slight blow. The bleeding may recur without apparent cause several times during the first days following the injury. It is of little importance in most cases, but an examination of the acuity of the vision should be made, as hemorrhage in the interior of the eye may have been produced at the same time and make the case a serious one. Absorption of the blood takes place quite rapidly, leaving some discoloration of the conjunctiva for a few days more. Applications of cold compresses to the lids are grateful to the patient and may expedite the removal of the blood.

Wounds of the ocular conjunctiva usually heal very quickly and require no other treatment than the frequent removal of the secretion from the conjunctival sac, but if they are very extensive a stitch or two with very fine silk will expedite the healing. Abrasions of the epithelium of the cornea are sometimes caused by a scratch with the fingernail, the edge of a piece of paper, the rebound of a twig of a shrub, the beards of grain, and so forth.

An injury of this kind occurring to an eye free from inflammation of the conjunctiva and from disease of the lacrimal sac ordinarily heals in a short time without leaving even a scar. All that needs to be done in such cases is to keep everything that can carry infection away from the eye, to instil a few drops of the cocaine solution every few hours, and to apply compresses wet with warm solution of boric acid to the lids for half an hour several times a day. The defect is usually permanently covered after a good night's rest. Occasionally we meet, however, with a case in which, after a slight scratch of the cornea, the irritation continues for days, then subsides gradually with an apparently complete cure. But after a week, or perhaps a month, the eye again becomes painful and inflamed, the attack lasting from one to several days and ending as before in apparently complete recovery. Usually the pain is first felt on awaking in the morning, and it is supposed that it is caused by the conjunctiva of the lid having become during the night adherent to the loosened epithelium of the cornea at the original seat of the injury. I have known cases in which such attacks recurred many times. It seems most probable that in cases of this description the scratch extended somewhat deeper than the epithelial layer, and that the new-formed epithelium for some time merely bridges this spot and is now and then raised and loosened by serum collected beneath it. In these relapsing cases I have found the best treatment to be the complete rmoval of the loose epithelium by means of a sterile camel's hair brush or a cotton-tipped probe wet with a solution of boric acid, so that a sharply defined defect with regular edges remains. This must be repeated as long as the epithelium covering the wound is not as transparent as elsewhere. If the floor of the defect is found to be grayish in color after the removal of the epithelium, I touch the grayish portion with alcohol and repeat this application if necessary several days. In a few cases I have been obliged to resort to the galvanocautery to secure a permanent cure, but this should be avoided if possible, especially if the scratch was over the pupillary area. Some surgeons recommend bandaging of the eye for several days in this affection, but I have not had to resort to the bandaging since I have used the treatment above described.

All wounds of the cornea, even slight scratches, if produced by unclean implements or occurring to eyes in which disease of the conjunctiva or disease of the lacrimal passage is present at the time the injury is received, require special attention, as they often become the starting point of progressive ulcers or abscesses which may lead to great obstruction of the cornea. In all such cases the previously existing disease should be treated as already described. The conjunctival sac must be kept clean by frequent irrigation with a wash of boric acid or a weak solution of bichloride, 1 to 5,000. Sometimes I have used instead of the bichloride solution an ointment composed of bichloride of mercury, 1 part, to 1,000 parts of vaseline, and introduced a piece of the size of a pea into the conjunctival sac every four hours. Instillation of a solution of atropine and warm fomentation with boric acid solution I use in every case. If the treatment here outlined fails to arrest the progress of the ulcer, if the whole or a part of its margin assumes a yellowish-white color and a hypopyon makes its appearance (a hypopyon is a collection of purulent matter at the lower part of the anterior chamber, which changes its position or disappears on the patient's looking upward), very finely powdered iodoform or xeroform should be dusted on the ulcer once or twice daily, and if this fails to stop the progress of the ulcer, the infiltrated portion must be destroyed by means of the galvanocautery. If the latter is not available, pure carbolic acid may be cautiously applied to the infiltrated margin by means of a very thin glass rod or a pointed stick of wood. Great care must be exercised to limit the application of the acid to the ulcer, and the conjunctival sac must be freely irrigated with sterile water for some time after the application. When the progress of the ulcer has been arrested, the warm fomentation and the cleansing must be continued till all symptoms of irritation have subsided. In some of these cases a violent iridocyclitis is produced by the action of the microbes, usually pneumococci, and intense pain in the head with a tendency to closure of the pupil is present. In such cases the atropine solution must be used more freely, and six leeches should be applied to the temple.

Foreign bodies, especially when sharp-pointed, on the inner surface of the lids, particularly when situated near the free margin, cause much pain by being carried over the cornea with every movement of the lid. To remove these foreign bodies the lid must be everted, which can be easily done by one who is accustomed to handling eyes, without any instruments, but for those not used to such work it is best to use a probe or anything like it in shape, and lay it transversely across the lid, not far from its free edge, and, by taking hold of the eyelashes while the patient looks down, raise the lid by the lashes. If the foreign body is not found here, search should be made for it in the cul-de-sac. This is done by lifting with a spatula or a broad probe the everted lid while the patient looks down as far as possible; or if the physician finds it difficult to do this, he should pass a cotton-tipped probe or a camel's-hair brush as high up as practicable, and pass it from one end to the other of the cul-de-sac. I have known so-called eye-stones, and even pieces of glass, to be lodged in the cul-de-sac for many months without their presence having been suspected by physicians. Another and still simpler way to remove foreign bodies on the conjunctival surface of the upper lid, is to pull the upper lid far down by the lashes and at the same time to push the lower lid up as far as possible under the upper lid, and then to let go the upper lid. In this way the lashes of the lower lid sweep it down. Foreign bodies, such as fragments of straw, the husks of seeds, the wings of insects, cinders, etc., when lodged on or in the ocular conjunctival do not as a rule produce much irritation, and may remain in this position for an indefinite time without doing harm. Their removal is easily accomplished, if situated on the conjunctiva, by lifting up an end by the point of a clean needle or a spud; a cotton-tipped probe will often answer the purpose. If situated in the conjunctiva or under this membrane their removal is much more difficult. The easiest way to get them out is to grasp with a delicate forceps the foreign body and with it as little as possible of the conjunctiva over or around it, and snip this off with a pair of fine scissors. If necessary, the edges of the wound may be brought together by very fine silk thread. Grains of gunpowder never cause any irritation here, and need not be disturbed.

Foreign bodies in the conjunctival sac or in the cornea often produce an amount of pain, photophobia, and lacrimation which seems entirely out of proportion to the size of the body or the amount of injury sustained by the eye. The picture presented in such cases is so characteristic that anyone familiar with affections of the eye is enabled to make a correct diagnosis as soon as the patient enters his presence and before he has told his tale, or before the eye has been examined. In most cases the patient is aware that a foreign body has struck his eye, but in some, especially if the body has been blown against the eye by the wind, the patient does not suspect its presence, and attributes the condition of his eye to a sudden cold. In all cases in which the symptoms described arise suddenly and are confined to one eye, or are at least most marked in one, the presence of the foreign body should be suspected and a very careful sarch be made for it by the methods already described. If none is found on the inner surface of the lids, in the cul-de-sac, in or on the cornea, the punctum of the lower canaliculus should be inspected, as I have more than once found, especially soon after the patient's hair had been cut, a small stiff hair protruding from it and rub against the cornea with every movement of the lid.

Foreign bodies *on* the cornea are easily wiped away by a cotton-tipped probe wet with sterile water. If *in* the substance of the cornea, the foreign body must be dug out with a sharp spud or with a cataract needle, or if the body is oblong in shape and has entered the layer obliquely, like a splinter under the fingernail, it will be necessary to split the layer in front of the edge of the body nearest the surface, and then extract it with delicate forceps. If the body has extended so deeply that there is danger of pushing it into the anterior chamber in the attempt at extraction, a lance-shaped knife or a broad needle must be passed through the cornea into the anterior chamber, and its blade be pressed against the posterior surface of the cornea behind the foreign body while the latter is cut out. If the foreign body is of iron or steel and of sufficient size, it may be extracted sometimes, without cutting, by a powerful electro-magnet. After the removal of small fragments of iron or steel a brownish spot often remains, which is caused by the chemical combination of the iron with the albuminoid substance of the cornea. Some surgeons do not think it necessary to remove this, as it will be thrown off after a while, but so would also the foreign body if left there long enough. I remove both at once, and hence save the patient prolonged irritation and loss of wages from inability to work.

For the removal of a foreign body, the patient should be placed in a firm chair near a window, but in such a position that the image of the window does not fall on the cornea. An eye speculum may be used to keep the lids apart and the eye-ball steadied by a forceps. If the eye is under the influence of cocaine or holocaine, however, this will be found unnecessary in most cases. The surgeon, standing behind the patient, fixes his head against the surgeon's breast, the upper lid is raised with the forefinger of his left hand and the lower lid drawn down with the middle finger, and, holding the spud or needle as he would a pen, he inserts the instrument beneath the foreign body and lifts it out. If he is not ambidextrous, and the left eye is the one to be operated upon, the patient's head must rest against the breast of the assistant, and the surgeon stand in front of him. After the operation the surgeon should make it a rule to examine the eye by oblique illumination before he discharges the patient, and if any particles of the foreign body or the discoloration spoken of remains, he should continue to scrape away till all discoloration has been removed. The after-treatment is the same as that of corneal wounds.

In the fall of the year, during chestnutting time, I have often seen cases in which a chestnut burr had fallen against the eye, and numerous prickly hairs of the burr were deeply embedded in the cornea. I have always removed them very carefully, and have never seen serious consequences follow the accident. The hairs of certain caterpillars, lodged in the ocular conjunctiva or cornea, have been known to produce, in addition to the common symptoms of foreign bodies, after a period of a month or more, small nodular swellings around them in both the ocular and the palpebral conjunctiva. The hairs are known to have penetrated the cornea and the iris, and to have set up violent inflammation of the uveal tract. The nodules in the conjunctiva are usually about the size of a millet seed, and consist of granulation tissue and giant cells. The hairs lodged in the conjunctiva and the surface of the cornea, as well as the nodules, must be excised, if possible, by fine forceps and scissors, and atropine and other mydriatics must be used to combat the iritis; and if the disease is localized in a part of the iris, it is best to excise this part when the inflammation of the iris has somewhat subsided.

Perforating wounds of the cornea, even when made by sharp and clean instruments, must always be regarded as a menace to the future usefulness of the eye unless made under aseptic conditions; and these are rarely present when accidents occur. If not complicated with injury to the deeper structure, or with prolapse of the iris, they should be treated simply by rest, cold applications to the lids and instillations of a mydriatic. A well-fitting occlusive bandage, made of elastic flannel, will in most cases materially assist in securing a speedy healing of the wound. If a small prolapse of the iris is present and the injury a very recent one, and the prolapse is not covered by exudation, the prolapse should be cleaned by thorough irrigation with sterile normal salt solution and an attempt made to reduce it with spatula and probe. If successful, mydriatics should be instilled if the wound is in a central part, and myotics if in the periphery of the cornea. If not successful, it is best to abscise it close to the cornea, and if possible to leave no iris between the lips of the wound. The after-treatment is as for simple wounds of the cornea.

All large perforating wounds of the cornea and sclerotic, and especially those involving the ciliary body, are of an extremely grave nature, and their treatment had best be left to men experienced in such injuries. Rest in bed and cold applications to the lids are to be recommended in all cases till an ophthalmologist can see the case and decide on further treatment. Under aseptic treatment many such injuries are now healed and the form of the eye preserved, even if the vision is lost; but many of these, even after they have become perfectly quiet, and all symptoms of cyclitis have apparently subsided, may give rise to a destructive inflammation in the other eye, sympathetic ophthalmia, and it is a serious question whether it would not be better to enucleate eyes with such extensive injuries at once, rather than have the patient endure many months of pain, have a useless eye in the end, and be in constant danger of sympathetic ophthalmia.

Foreign bodies lodged in the interior of the eye can often be extracted without great injury to the eye, by experienced operators. If of iron or steel, they can often be removed through the wound of entrance by the powerful electric-magnet if they come under observation within a day or two after the injury; and such patients should be at once sent to a place where such a magnet is available. Unless removed, foreign bodies in the vitreous body, retina, or ciliary body usually give rise to severe inflammation, destroy vision, and not infrequently cause sympathetic ophthalmia. Occasionally such bodies become encysted, and the eye remains quiet till the capsule enclosing the body breaks. Foreign bodies in the lens usually cause cataract. They can be removed, if of iron, by the magnet if seen soon after the injury, or be extracted with the cataract later on. Foreign bodies in or on the iris can be removed without cutting out a piece of the iris in many cases, but in some this is not practicable.

Burns and scalds of the skin of the lids often result in extensive sloughing, and great deformity not infrequently follows the contraction of the resulting cicatrix. Other parts of the face are usually burned at the same time, and the treatment in no wise differs from that of the same injury to the integuments of other parts of the body.

The injury done to the conjunctiva and the cornea by the contact of boiling hot fluids, melted metal, red-hot iron, the explosion of gunpowder, dynamite, and other explosives, the touch of the lighted end of a cigar, the ignited end of lucifer matches, is often very great, and not infrequently ends in blindness. In all cases of this nature our first thought should be to get rid of the agent producing the injury, if still present; and in order that a careful search be made, one must make free use of cocaine, eucaine, or holocaine, in watery solution or combined with vaseline in the form of a salve. If the injury was caused by hot fluids, the presence of foreign bodies in the cornea or conjunctiva is not probable; nevertheless search for such should be made before other treatment is instituted. Melted metal, pitch, and other substances which are solid in their usual state generally remain at least a part in the cornea or in the conjunctival sac, and must be removed with the least injury to the part.

Occasionally the injury sustained from such accidents is much less than could be expected. Some time ago I was visited by a workman employed in the gas-works, who, while looking through a small opening in a gas-retort, was struck by some melted pitch, which, as he said, had caused the eye to be blind. I found the lids somewhat burned, a layer of pitch between the free edges of the lids, enveloping the lashes so thoroughly that I had to cut them close to the skin before I could liberate them; on opening the lids I found a very thin layer of pitch on the cornea, which came away without difficulty. His vision was normal and he had no further trouble whatever from the injury. On several occasions I have removed from the eye a perfect mould of lead of the surface of the globe, and found both the conjunctiva and the cornea uninjured. It is generally supposed that in such cases the moisture of the surface of the conjunctiva and cornea is converted into a layer of steam by the hot metal, which prevents injury to these parts. The metal forming the wound is usually lead, which cools rapidly.

In explosions of gunpowder, or other explosive substances used in mining and blasting, the cornea may be merely scorched and no other injury done, but most frequently the burn is complicated by grains of unexploded gunpowder, sand, fragments of stone or metal being driven by the force of the explosion into or through the cornea, and even through the lens into the vitreous chamber and retina. If foreign bodies are present in the cornea, sclerotic, or conjunctiva, they must be removed with a spud or needle, and the conjunctival sac must be irrigated with sterilized water till all that are loose have been removed from the conjunctival sac. Applications of cold to the lids , after first covering the skin, if this is burned, with cloths wet with an antiseptic solution, are generally grateful in the early stages, but should be continued only for a short period if the cornea is much injured. The conjunctival sac must be washed out frequently with a mild antiseptic solution of normal saline solution and atropine instilled if the cornea is involved. Cocaine and holocaine must be freely used, and best in combination with vaseline; and if the pain is very great, leeches should be applied to the temple and morphine should be given in sufficient quantity to secure sleep. In the later stages warm applications to the lid will be found more grateful than cold ones, and a salve containing iodoform or sozoiodol substituted for that of cocaine. It has been the practice of some surgeons to tear up the adhesions which form between the opposing surfaces of the conjunctiva, if this has been burned, or between the cornea and the lid, and while this will sometimes succeed if the conjunction is burned only in patches, it is utterly useless and only gives the patient additional pain if the destruction extends to the cul-de-sac. Of all these means which have at various times been devised to prevent the formation of a total symblepharon in such cases, none have in my hands been of any use whatever. I have also tried to graft mucous membrane from the lips on the burned surface of the sclerotic, but the result has not been proportionate to the pains taken. In some cases I have succeeded in severing adhesion between the lids and the globe months after the injury was sustained.

The destruction produced in the skin of the lids and the conjunctiva and the cornea by contact with strong acids, caustic alkalies, and escharotics is very variable, and may consist of a mere whitening and exfoliation of the epithelium of the conjunctiva and the cornea or a partial or total necrosis of these structures. The amount of mischief done will depend, not only on the caustic nature of the agents, but also on the length of time of contact. The prognosis should be guarded even in what seem trifling injuries resulting from strong acids. Only recently I saw a man employed in an oil refinery, on whose face and eyes a quantity of crude sulphuric acid was thrown during an explosion. The skin of the face and of the lids was very badly burned, but his eyes, when examined by a physician shortly afterward, were apparently not seriously injured. He had no pain in his eyes and his vision was not much impaired, according to his own statement. The burns of his face were treated in the usual way, and as he did not complain of his eyes nothing was done for them. A week later, on opening his eyes, he noticed that he could not see, and an examination made at this time showed the cornea of each eye to be very opaque. The case went on from bad to worse, and when I saw him, about two weeks after the accident, the cornea of each eye had sloughed, and the contents of the eyeballs had partly escaped. Lime, mortar, and other compounds of which it forms an ingredient, are very destructive to the eyes, and the lesions produced thereby do not differ essentially from those due to burns from molten metal. The surgeon but rarely sees injuries of this character till some time after the accident, when the agent, if it was a fluid, is no longer in the conjunctival sac, and all attempts to neutralize the fluid at this time are useless. The free use of sterilized water for irrigation of the conjunctival sac is serviceable in all cases, lime burns included, for the purpose of washing out any foreign substance which may remain. The use of water in cases where lime or any of its compounds has come in contact with the eye, was till lately by some physicians regarded as harmful, as it was thought that it, by slaking the lime, caused a degree of temperature which was destructive to the tissue. Recent laboratory experiments have shown that this view is erroneous, and that water is far better for these cases than a solution of sugar, which forms a combination with lime having decidedly caustic properties. It is now known that the opacity of the cornea is the result of the chemical action of the lime, and may consist of the extraction of the corneal mucoid, the precipitation of sediments in the epithelium, in the glutin of the basic substances, and in the lymph. The rise of temperature and the abstraction of water attending the slaking of lime have little or nothing to do with the production of the opacity of the cornea.

In cases of lime burns the patient should be laid on the floor, the eyelids pulled apart as far as possible, and cold clean water be poured in a stream over the cornea and the conjunctiva. As soon as most of the lime or mortar appears to have been washed away, a solution of cocaine or holocaine should be instilled at intervals of a few minutes, till the pain has subsided, or if the spasm of the orbicularis is so strong that the lids cannot be pulled apart, a solution of cocaine should be injected at the outer canthus with a small blunt-pointed syringe; or if a salve containing the local anæsthetic is at hand, this may be injected in the same way, till the lids are distended. As soon as the eye can be opened, a careful search should be made for any remains of particles of the agent, not only on the cornea and the conjunctiva of the lid, but the cul-de-sac must be explored, as here they are often hidden, and if present must be wiped away with cotton wrapped on a roughened probe or a small stick, if they are loose, and with spud or forceps if fastened to the tissue. The subsequent treatment should be the same as that of burns from metal. All efforts to clear up the cornea after the inflammatory symptoms have subsided have not resulted in doing much good. Very lately a German physician professes to have found a remedy which will accomplish this. The remedy is the chloride of ammonium, which he uses in a 2 to 15 per cent. solution, and with this he bathes the eye for 15 minutes several times a day. I have not yet tried the remedy, but shall do so when opportunity offers.

In conclusion, let me say that, as traumatic injuries to the eye are not infrequently the cause of litigation for damages, it is of great importance that the surgeon into whose hands the case first falls should not only make a thorough examination of the injured eye, but also ascertain the exact condition of the non-injured at the time when the patient is first seen. His memory may not always be relied upon, and it is in the interest of all parties concerned that he should keep a complete record of the case from beginning to end. If practicable, he should note the exact amount of vision in each eye when examined separately and all peculiarities he may observe in the non-injured eye, as defects in this eye may subsequently be attributed to the injury of the other eye.

SUCCESS IN PRACTICE.*

BY CHARLES E. NAMMACK, M.D.,

PROFESSOR OF CLINICAL MEDICINE, CORNELL UNIVERSITY MEDICAL COLLEGE, NEW YORK.

Twenty-one years ago I had the honor of delivering an address to my classmates of the Bellevue Hospital Medical College who, like you, had enjoyed the privilege of clinical study in the wards of the adjacent vast hospital.

The intervening years have brought about marked changes in the methods of medical education. Then the didactic lecture was the chief instrument for imparting instruction, and after listening to the same lectures by the same men for two or three consecutive winters, and supplementing the lectures by a reasonable amount of reading, the average student could pass his final examination, receive his diploma—which was also a license to practise—and go forth to practise upon an unsuspecting public. It was seriously asserted that a man could graduate without having seen a case. It was said that success in practice rested upon a tripod, made up of a sign board, a carriage, and plenty of assurance. No state examination bugbear confronted the recent fledgling. He was free to go and blow, where he listeth. His ideas of the pathology of disease were as yet untrammelled by the swaddling clothes of the then infant science of bacteriology.

The dawn of Laveran's discovery was just beginning to shimmer over the horizon and to dispel the mists of the idea that malaria was caused by bad air. The humble mosquito, while admittedly and perniciously active, had not yet risen to the dignity of a winged messenger and bearer of pathogenic germs.

The great white plague was thought to fall only upon those who had been injudicious in the selection of their ancestors, because the brilliancy of Koch's finding of the rod-shaped bacillus had not yet diffused itself through the accumulated ignorance of centuries.

Yet the men who were turned out to practise in those days have ever since filled useful and honorable positions in the community, and although their scientific training could not compare with yours of to-day, their practical equipment has been sufficient to carry them and their patients through the dangers and difficulties of life.

The teachers of the olden time, hampered as they were by lack of laboratories, special hospitals and financial endowments, must have been great men to obtain the results which they did. The liberality which has secured for you this magnificent building with its dissecting rooms, laboratories, recitation rooms and palatial outpatient clinic was an unknown quantity then. And the times have also changed. Perhaps the pleasantest way to study the manners of a period is by its contemporary fiction. If you take down a novel of 40 years ago, say by Bulwer-Lytton, or Disraeli, or even dear Jane Austen, what do you find? A picture of an old English country house, a long library with walls bearing oil paintings of distinguished men and women in court dress, and at the library table a pallid young man whose aristocratic features suggest the firm lines of those counterfeit presentments which hang around him, etc., etc. Then will follow pleasant descriptions of the placid life and conversation of perfectly self-possessed English gentlemen who never could, by any possibility, forget themselves for a single moment. This was the kind of meat on which our fathers fed. Placidity, contentment and inaction!

Take one of the popular books of to-day. We have our Hugh Wynnes, and our Richard Carvels, and our Prisoners of Zenda, and our Gentlemen of France, and a whole host of dashing, slashing, crashing fellows who apparently never can, for a single moment, think of themselves at all. They represent the "Zeitgeist," the spirit of to-day, the spirit of doing things, and while doing them, doing them with all your mind and all your heart and all your strength. And you of Cornell University, you represent an institution which does things. You will soon become a part of a graduate body which is doing things. Go forth ye, and do your share!

Let us borrow another illustration from the field of contemporary literature. Take that meteoric figure which a few years ago flashed across the sky of letters with such vividness that critics prophesied that the falling stick of a burned rocket would soon be heard. But, to the confusion of his enemies, the clear light of his genius still burns as a guiding star and warms the pulses of patriotic men and women everywhere. What can you learn from his life? A young man in a government office in India, his ambition was to write. He did not try to achieve it by dawdling around the boudoirs and the clubs, nor did he crook the pregnant hinges of the knee where thrift might follow fawning, but he went first among the lowly for his studies of life, and his spare moments in the barrack room resulted in the creation of the jovial Mulvaney and his riotous chums. He cultivated the society of the up-country traders for the legends of the jungle, and Mowgli and his brothers sprang into life. He followed the army on the march, as he is following it to-day, that he might see for himself the awful ravages of camp dysentery and typhoid, and the still more deplorable havoc of governmental mal-administration.

Where will you find such photographic fidelity of observation, where such graphic accuracy of description? (I am not forgetting that optic nerve in *The Light That Failed,* which he placed outside the frontal bone. Even Homer sometimes nods.)

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* Address delivered before the Cornell University Medical Club.

This is the lesson I wish you to draw from his work. Do not stand idly waiting all the day long for the wealthy patient who cometh not until you are aweary, aweary, or perhaps until you are dead, but take up your work among the hundreds of thousands of your fellow men and women who are daily and nightly, grimily and perspiringly, but magnificently and courageously, fighting the battle of life. Take it up among the tenements even though you must rub against filth, vice and ignorance. Take it up in the camp, even though you must follow the flag through pestilential torrid swamps and fight the dangers of the camp latrine. Take it up between the decks of the liners and in the stokeholes, even though your hands be soiled with smudge. Take it up in the pesthouse, where a woman graduate of this college remained with a patient whom all others had deserted, while an admiring nation marvelled at her courage and devotion to duty.

And wherever you take it up, take with it the knowledge that Cornell men and women before you have set a standard of work which must be yours to uphold and uplift.

And remember that you must take with you into practice many things which are not in the pharmacopeia. It is a good thing to know when and how to dispense opium, quinine and strychnine. Your faculty can teach you that. Would that we could also teach you how to dispense hope to the despairing, courage to the wavering, cheer to the faltering, consolation to the suffering, and to bring with you the glorious sunshine of outdoors to the shut-ins of the sick-room! Balzac has written that "the sick man's horizon is at the foot of his bed." Let your patients be something more than pathological specimens in your eyes. You must help the husband to guard from his wife's anxious eyes that which his love wishes to spare her while he may. You must strengthen the mother's courage and devotion to an erring and wayward child. You must be the friend of the youth, that he may not be ashamed to tell you of habits that require correction. You must know what doubtful credits or shaky speculations are causing the tremor of the business man's hands. You must be the center of the strongest emotions of which the family life is capable. Strange burdens will be laid upon your shoulders, and you will have acknowledged rights greater than those of relatives, friends or even spiritual advisers. But every right has a corresponding duty, and the duties imposed upon you in return for your rights are tenderness, humanity, honesty, wisdom and delicacy. In return, these should inspire your patients with gratitude, respect and confidence. But gratitude will often take the form of an unpaid bill; respect will give place to forgetfulness; confidence will melt away under the assumptions of ignorance and empiricism.

Still, to one who has a steady hand on the helm, a course marked out, a point to be reached, these are minor discouragements. Mists, though irradiated with gold, are illusive; we want to see our destined end clear-cut and strong, a thing real and positive standing before us, before we have any good hope of success. What though the rock of disappointment does loom up in the course? Disappointment is not failure. Against the elastic vitality of youth it should be as a call for endurance, as a summons to heroic endeavor, as a command to elevating energy. Even failure is not criminal. Despondency is the only sin. You may remember the description of Dr. William MacLure that Jamie Soutar gave: "It was michty tae see him come intae the hoose, neeburs; the verra look o' him was victory."

And you remember the victory over death that he and Sir George made. Sir George, the eminent specialist, whom he drove through the flood to save the life of poor Annie Mitchell. And the tubbing which he gave Saunders to reduce his fever, the success of which caused even the minister "in his goon and bans" to break into cheers on a Scotch Sabbath. And his own last journey, when he said "A ken as weel as onybody that a' wasna sae dainty and fine mannered as the town doctors. But if the new doctor be a young laddie and no verra rich, ye micht let him hae the buiks and instruments; it ill aye be a help."

It may not be given to you, or to me, to live a life so close to the hearts of our patients, but let us strive to live so that when we enter a house we enter as friend as well as physician. Be true to your sacred trust; be firm in defense of the right; be diligent in pursuit of Truth; be hopeful ever. Do not be discouraged by the pessimistic philosophy of the day which teaches that this world is only a big coral for us to try out teeth on, a proving ground, a hotbed from which we shall presently be transplanted according to our several deserts; and that since we are powerless to change the existing order of things, we should be content to drift with the tide. In the language of Victor Hugo, so long as the three questions of the age, the degradation of man by poverty, the ruin of woman by starvation, and the dwarfing of childhood by physical and spiritual night, are not solved; or, in other words, so long as ignorance and misery remain upon the earth, just so long must every man and every woman resolve to live a life that shall not be useless. Go ye forth, then, and do your share!

At your right hand may walk the shadow of disappointment; at your left hand, may stalk the specter of temptation; all around you, at times, may fall the awful pall of human despair. But, amid these darkening shadows, strive to walk uprightly, strive to walk manfully, strive to walk God-fearingly, and, at the last, you will emerge into that eternal light which is reflected from the face of God himself.

Vermont Tuberculosis Conference.—Much interest was manifested throughout the State of Vermont in a tuberculosis conference, the opening session of which was held at Burlington September 29. The conference discussed the subject of tuberculosis in Vermont, and the perfection of an organization for study and prevention of the malady.

STERILITY IN THE FEMALE AND ITS CURABILITY.

BY S. L. KISTLER, M.D.,
OF LOS ANGELES, CALIFORNIA.

The slight attention paid to this subject is possibly due to lack of information as to value of treatment, and partly because of disinclination for the burdens of maternity. In this paper I shall avoid prolixity, as the subject is one which admits of great extension. Therefore, I shall of necessity treat the subject in a casual way. The conditions may be either acquired or congenital, and in taking the matter up I will consider the term "Sterility" or "Barrenness" to apply to women, who, under favorable circumstances, fail to procreate. I might be more exact, but to do so would only confuse, and my excuse for presenting this paper is to call attention to a subject of much importance to all practitioners, as it is fast becoming more and more widespread; and it behooves the doctor to use his best efforts to remedy the defect when called upon.

The causes of sterility may be enumerated as follows: (1.) I believe that many causes of this condition, as well as of uterine disease in general, are the result of loss of sympathetic nerve force, the effect of disease, or injury arising from sexual demands. (2.) An indefinite number of cases are undoubtedly the result of imperfect participation of the uterus in the sexual orgasm, and the consequent lessened respiratory action of the uterus. (3.) Inactive ovaries. (4.) Inactive condition of uterine mucosa. (5.) Congenital deficiencies, anomalies of the hymen and malformation of the congenital tract. (6.) Arrested development of ovaries and tubes. (7.) Excessive acid reaction of secretion of vaginal mucus membrane and catarrhal changes in the mucus membrane of the uterus and tubes. (8.) Vaginismus; neurastheniæ; exhaustion; physical decadence; nymphomania. (9.) Amenorrhea; dysmenorrhea; narrow internal and external os. (10.) Flexions; versions. (11.) Laceration of cervix; profuse leucorrhea; endometritis. (12.) Gonorrhea, especially with involvement of adnexa. (13.) Constitutional diseases and conditions. (14.) Neoplasms; myomas; malignant growths; hypertrophy. (15.) Ingestion of certain articles of diet and medicines. (16.) Obesity. (17.) Incompatibility. (18.) Higher education.

Treatment.—When a case applies for treatment for sterility, we must bear in mind the fact that all cases are imputable to women. Indeed, "Dr. Vedder, who carefully examined 300 married women and their husbands who were childless, proved in effect that 70 per cent. of his particular cases were due to the man, either directly in consequence of functional impotence or absence of spermatozoa; or indirectly by infection of the woman by gonococci. In 30 per cent. of his cases the cause was due to the woman and most generally owing to neoplasms or atrophy of the uterus." Regarding the above quotation, I will say, that I believe the reverse holds true in this part of the country. Therefore, if treatment either indicated or tentative does not yield results within a reasonable time, we should proceed to investigate the husband's condition before we carry treatment further. It behooves us to search diligently till we find the cause, and, if found incurable, the patient may be so informed, but I would advise all to be cautious on this point, as our patient may, on the other hand, become *enciente,* much to our chagrin and discomfiture. So, as before noted, search diligently for the cause. Get as complete a history of case as possible, for many factors may enter in, and heredity may cut a wide swath in helping us to arrive at a conclusion; and the poet who said "Every man is an omnibus in which ride all his ancestors," may have spoken concerning the very case you have in hand. Slight or minor diseases of the ovaries or tubes are said to cause the condition under consideration more often than more severe troubles, and this because of the intricate and difficult adjustment of the pavilion of tubes to ovaries, which relationship may be set aside by the most trivial vice of structure or disease. Arrest of development or disease of ovaries seldom cause sterility, as both are rarely diseased at the same time. Likewise many women conceive readily in whom orgasm is deficient or absent.

General treatment embraces remedies from borax down to Key-Tsi-Ching, a famous Japanese remedy, and on down to *Lawsonia Inermis,* a celebrated Arabian cure. Probably our most beneficial remedies are belladonna, the auric salts and electricity, combined with such local treatment as is indicated. Tone up the nervous system and prohibit frequent coitus. Tone up uterine mucosa, for conception may occur and the result be blighted early if condition of mucosa is unfavorable.

For inactive ovaries and atrophy, we have valuable aids in electricity, protonuclein, ovarine, thyroids, sabal serrulata, ignatia and such other agents as are indicated and tend to develop and bring to maturity. In congenital deficiencies, anomalies of hymen and malformation of tract, the help of the surgeon must be had when he will, if possible, remedy the condition. Likewise we must call the surgeon in cases of laceration, neoplasms, and malignant growths; and, if thought necessary, in cases presenting myomas. However, it is supposed that they very seldom cause the condition. Excessive acid reaction of vaginal secretion may be often corrected by use of suitable alkaline douches, and further treatment will consist in toning up the mucous membrane. Catarrhal conditions of not too severe type may be treated by applying solutions of arg. cit. or iodized phenol, and in cases presenting marked hurt in endometrium the above is profitably used before applying the curette. Of course all malposition must be corrected as soon as possble. Graily Hewett reports thirty cases dependent upon flexions and versions cured by remedying the abnormality. Vaginismus, neurastheniæ, exhaustion, physical decadence, nymphomaniæ, and all neuroses appearing demand careful investigation in order that the source of trouble may be discovered, and if possible remedied amenorrhea; menorrhagia.

Since the days of Marion Sims we have been taught that the chief reason for sterility, attributable to the woman, is narrowness or flexions of the uterine canal. But when it is remembered that the narrowest pin hole os will admit a sound on careful manipulation, which is many times larger than the self-propelling spermatozoid, it will be seen that this reasoning is scarcely satisfactory, and it is doubtless due to operative furor that the popularity of the stenosis and atresia theory of sterility continues. Since the time of Sims and Simpson, practically no form of treatment has been employed save some method for opening or enlarging the canal, a procedure which not only has been, as a rule, ineffective, but has been followed by morbidity and mortality, especially when slitting the cervix has been done. Being satisfied with the effect of electric currents and accepting the evidence offered, we believe that we have in it a treatment far and away in advance of any other means known at the present time; and Sims' assertion that sterility can only be cured by surgical interference is untenable—rather use medication that raises the nutrition of the entire organism. "And now we are told to feed or starve the woman according as we wish male or female progeny.

Constitutional diseases and conditions call for such treatment as their respective types indicate.

In case of very large vagina, recourse may be had to artificial fecundation. Avoid use of articles containing tannin, also forego use of antiseptics. In case of absence of ovaries: "Knauer has reported successful pregnancy following transplantation of ovarian tissue."

Obesity produces sterility by mechanical pressure and by excess of fat in the blood and thus causes amenorrhea, and ripening and bursting of graffian follicle is thus prevented. The treatment is obvious. Always bear in mind that such cases may be the result of senile decay.

If gonorrhea has sealed up the ends of tubes, their restoration *ad integrum* is scarcely possible. However, as a *dernier resort* an explorative incision will show if the condition be possibly remediable.

A noted American gynecologist has said: "He never knew a woman to bear a child after having had gonorrhea." This statement none of us believe.

Finally in the treatment of sterility, we should bear in mind the fact that each case is a law unto itself, and we should study it as though it were the only case, remembering the great number of cases dependent upon slight causes.

Conclusions.

(1.) The great majority of cases of sterility are dependent upon slight causes.

(2.) The greater number of cases are curable.

(3.) Many apparently hopeless cases are curable.

(4.) Length of time a case has persisted is no bar to treatment, providing organic change has not obtained which precludes possibility of cure.

(5.) Treatment used must always depend upon the case in hand.

A CASE OF CHRONIC LYMPHATIC LEUCEMIA ACCOMPANIED BY LYMPHOSARCOMA, OR MYELOMA, OF THE STERNUM AND RIBS.

BY CHARLES F. CRAIG, M.D.,

CONTRACT SURGEON, U. S. ARMY; PATHOLOGIST AND BACTERIOLOGIST TO THE U. S. ARMY GENERAL HOSPITAL, PRESIDIO OF SAN FRANCISCO, CAL., ETC.

THE following case of chronic leucemia of the lymphatic variety, accompanied by diffuse lymphosarcoma, or myeloma, of the sternum and ribs, is of interest in many ways, and has been thought worthy of being put on record. For the clinical data of the case I am indebted to Dr. Edmund Barry, U.S.A., who first suspected the nature of the disease.

Clinical History:—O.E., Private, Co. "G," 14th Infantry. Patient was admitted to this hospital September 18, 1901, from U.S. Army Transport Meade, with a diagnosis of anemia due to chronic diarrhea.

Family History:—Negative.

Personal History:—Negative to the time of his enlistment in the army. He arrived in the Philippines in March, 1899, and in April of that year he had several attacks of diarrhea. The ailment continued at intervals for a period of nine months and returned while he was on the transport en route to the United States. His illness began with cramp-like pains in the abdomen, and was accompanied by frequent bowel movements, the discharges containing mucous but no blood.

Patient's condition on admission was very poor. He was somewhat emaciated and there was great muscular weakness. He presented a markedly anemic appearance, the skin being of a waxy color and the mucous membranes pale and bloodless. Tongue slightly coated, very pale and flabby. Appetite almost nil.

Physical Signs:—Heart rapid in action but otherwise negative. *Lungs*:—There was marked tenderness over the sternum on percussion, and increased dulness over the entire chest. Breath-sounds very much muffled, as were also the sounds of the heart. *Abdomen*:—There was marked tenderness over the colon, and the spleen was found greatly enlarged and very tender. There was considerable glandular enlargement, the submaxillary glands especially being noticeably larger than normal, and upon careful examination the post-cervical maxillary and inguinal glands, as well as the deeper glands of the upper and lower extremities, were found enlarged.

Dr. Barry, who had charge of the case, diagnosed it as a case of probable leucemia. The tenderness over the sternum increased from day to day and was very noticeable.

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* By permission of the Surgeon-General, U. S. Army.

On September 19, 1901, a blood examination was requested by Dr. Barry, but it showed nothing abnormal beyond a slight leucocytosis.

On October 15 a blood examination was again requested, and I found a great increase in the white cells, nearly all of which were small limphocytes. At this time the ratio of white to red cells was one to 12.

On October 20 the white cells were found to be still further increased, the ratio being, white to red, one to four. The increase in white cells was composed almost entirely of small lymphocytes. Repeated examinations of the blood were made, and the increase in lymphocytes was constant until death.

On October 22 there was a marked dyspnea, which gradually increased, the patient dying at 4:45 P.M., October 24, 1901. The temperature for the 24 hours before death was 105° F. in the axilla, pulse running from 140 to 160.

From the clinical history of the case and the type of lymphocytes found, it is probable that the disease originated shortly after the patient's arrival in the Philippine islands, and was diagnosed there as chronic diarrhea.

Examination of the Blood:—The examination of the blood in this case showed it to be typical of the chronic form of lymphatic leucemia. The increase in white cells was confined almost entirely to the small lymphocytes. In the fresh specimen these appeared as they do in normal blood, but in the stained specimens it was noticed that there seemed to be considerable degenalmost black color. These granules were irregular in size and shape and were found only in showing a large amount of glandular material which stained, with Ehrlich's triacid mixture, an almost black color. These granules were irregular in size and shape and were found only in the nucleus.

One of the most interesting facts about the blood examination was that at the first examination but a very slight leucocytosis was observed, not enough to attract my attention. This agrees with the observations of several authorities, who have shown that at intervals in cases of leucemia the leucocytosis seems to disappear, reappearing shortly.

The greatest number of lymphocytes found at any one time was 336,000 to the cubic mm., which occurred shortly before death. At this time the red cells numbered 1,352,000. At the first examination in which the increase of lymphocytes was noticed, October 15, the red cells numbered 1,912,000, the white cells 152,000 per cubic mm. From this time to the time of death there was a gradual decrease in the number of red cells and an increase in the leucocytes.

The ratio of the polymorphonuclear leucocytes to the small leucocytes was, as a rule, about one to 1,200: the ratio of the eosinophiles to the small lymphocytes about one in 2,200. The ratio of large lymphocytes to small was not accurately established, but it must have been very low, as many stained preparations showed only one or two large lymphocytes in the entire specimen.

Autopsy, Microscopical:—Body appeared to be that of a man about 24 years of age. *Rigor mortis* medium. The skin presented a peculiar, dimly yellow, waxlike appearance. There was slight *postmortem* discoloration over the dependent portions of the body and over the lower portion of the abdomen. Finger-nails were not congested. There was a general glandular enlargement of both the superficial and deep glands. The abdomen and chest were distended, and there was considerable general edema present. The pupils were slightly dilated and equal. The mucous membranes were almost colorless.

Thoracic and Abdominal Cavities:—Subcutaneous fat and muscular tissue were fairly well preserved, but the muscles were very pale in color. Covering the sternum and ribs, and lying between them, on both sides of the chest, was a large amount of newly formed material resembling cartilage in appearance, being yellowish-white in color, in some places evidently well supplied with blood-vessels. This material had obliterated the ribs and sternum; that is, their outline could not be distinguished. This material cut very easily, and upon removing the sternum and cartilages of the ribs in order to open the chest cavity, it was found that this newly formed material had covered the pericardium, and projected in small, nodular-like masses upon the pleural side of the ribs and sternum. Both pleural cavities contained fluid, and the pleura was adherent to the chest-wall in places. The liver reached about three cm. below the border of the last rib. The omentum reached to the bladder, and contained a small amount of pale fat. The stomach and intestines were dilated with gas and were very pale in appearance. The mesenteric glands were considerably enlarged, some reaching the size of a small filbert. The abdominal cavity contained a small amount of clear yellow fluid. The appendix lay upon the brim of the pelvis, was not coiled upon itself, and appeared normal. The bladder contained a small amount of urine. The suprarenal glands appeared normal, save for extreme anemia. The right ureter was dilated near the pelvis of the kidney. Upon section of the abdominal aorta it appeared much blood-stained, but there was no evidence of sclerosis.

Liver:—The liver measured 24½×22 cm. It was of a very light reddish-yellow color externally. The capsule was smooth, the gall bladder partially filled with bile, which was of a pale lemon color. Upon section of the liver the cut surface appeared a light brownish-red in color. The organ was very anemic. The cut surface showed large numbers of small capillary hemorrhages scattered throughout the tissue. The organ was not bile-stained. Consistence greatly decreased. The small amount of blood that flowed from the cut surface was very light in color and thin. Weight of the organ, 2,310 grams.

Pancreas:—The pancreas measured 15 × 6 cm. The organ was very pale externally. Consistence slightly increased. Upon section the cut surface was very slightly congested and appeared very fibrous. The weight of the organ was 120 grams.

Spleen:—The spleen measured 18 × 10½ cm. It was of a dark reddish-pink color externally. The capsule was considerably thickened and slightly wrinkled. There were minute capillary hemorrhages visible beneath the capsule. The splenic notches were obliterated. Upon section of the organ the cut surface was bright red in color and the organ evidently greatly congested. Numerous areas were present which appeared hemorrhagic. The Malpighian corpuscles were very distinct and appeared to be enlarged. The consistence of the organ was increased slightly. Weight, 430 grams.

Left Kidney:—The left kidney measured 14 × 6. It was very pale in color externally. The capsule was smooth. Upon section of the organ the cut surface was found to be very anemic, and there were small areas of congestion present. The cortex and pyramids were indistinct. The pyramids were almost white in color. The cortex was somewhat increased in thickness. There was no fat at the base of the pyramids. The mucous membrane of the pelvis was not congested. The capsule was not adherent, and the stripped surface showed numerous small hemorrhagic areas. Weight of the organ, 250 grams.

Right Kidney:—The right kidney measured 14 × 7 cm. It was very pale in color externally. The capsule was smooth. Numerous minute hemorrhagic areas were visible beneath the capsule. No cysts present. Upon section of the organ the cut surface was very pale in color, and there were a few small areas of congestion present. The cortex and pyramids were rather indistinct. The pyramids were very pale in color, almost white. There was no fat at their base. The cortex was increased in thickness, and the mucous membrane of the pelvis slightly congested. The capsule was not adherent. Upon stripping the capsule a few hemorrhagic areas were found. Weight, 230 grams.

Heart:—The pericardium lying beneath the sternum was covered with the new growth, which extended to the pleura on either side. The peribronchial glands were very greatly enlarged. The pericardium was thickened, the new growth evidently having infiltrated the tissue. The pericardial cavity contained about the normal amount of fluid. The apex of the heart was formed by the left ventricle. The amount of extracardial fat was about normal. The extracardial vessels were slightly congested. Upon section of the left heart, the left ventricle was found to contain a small clot. The muscular wall was normal in thickness, but very pale in color. The mitral leaflets were slightly thickened. The aortic leaflets appeared normal. Upon section of the right heart the muscular wall was about normal in thickness, but very anemic. The chambers were free from clots. The tricuspid and pulmonary valves were normal. Weight, 325 grams.

Lungs:—Both pleural cavities were filled with fluid. The left lung was adherent to the chest-wall by numerous very old adhesions. The organ was crepitant throughout and normal. The right lung was also adherent to the chest-wall by old adhesions, but upon examination was found to be otherwise normal.

Intestinal Canal:—Save for the extreme degree of anemia present, the intestinal canal appeared normal.

Bones:—Section was made through the tibia and through the ribs, and the bone-marrow was found to be not very much altered in appearance. It was of a dark reddish color, and appeared to be slightly more fluid than normal.

Anatomical Diagnosis:—Chronic lymphatic leucemia; acute parenchymatous nephritis; pleurisy with effusion.

Microscopical Examinations.—Liver:—Sections of the liver showed a diffuse distribution of small lymphocytes throughout the cappilaries of the organ, especially numerous in the portal spaces. In a few instances the excessive collection of lymphocytes in the portal spaces had led to the formation of lymphomas. These were never very numerous, however, the portal spaces as a rule simply showing a great accumulation of lymphocytes. The interlobular capillaries of some of the lobules showed but few lymphocytes, while in others the capillaries were crowded with them. They were all of the small variety, and took the stain very deeply. The larger blood-vessels were in places greatly crowded with small lymphocytes. The liver-cells, as a rule, showed marked albuminoid degeneration, the protoplasm appearing cloudy and the nucleus staining rather poorly. There was considerable pigment present in the protoplasm of the liver-cells in the form of very fine dark brown granules. The connective tissue of the liver was not increased in amount.

Spleen:—The splenic sinuses were crowded with deeply stained leucocytes, nearly all being small lymphocytes. The Malpighian corpuscles were greatly enlarged and composed entirely of small lymphocytes, in a few places the enlargement being so great that the condition was in reality a lymphoma. The organ was not pigmented, nor was the connective tissue perceptibly increased in amount. The lymphocytes in the spleen stained well, but the nucleus of many of them showed the same collections of irregular blackish pigment which were noticeable in the stained blood specimens. The most interesting feature in the sections of the spleen was the replacement of almost all the splenic cells by the small lymphocytes. These cells were almost the only ones present in the sections. The blood-vessels contained but few red corpuscles.

Kidney:—The most characteristic conditions found in the kidney were collections of small lymphocytes lying within the intertubular capillaries, but especially within the Malpighian tufts. Many of the Malpighian tufts were apparently almost replaced by an immense collection of small lymphocytes, forming minute lymphomas. The lymphocytes in this organ stained as in other sections and were of the same variety. There was a well-marked acute nephritis present, as was evidenced by the swollen and distorted condition of the epithelium lining the tubules, and the presence within the tubules of epithelial, hyaline and granular casts.

Lymphatic Glands:—Sections of the enlarged lymphatic glands showed simply an enormous collection of small lymphocytes, the entire glandular tissue being composed of them. As a rule, the normal structure of the gland was lost.

Description of the Tumor:—As has been stated, a diffuse new growth had infiltrated the sternum and ribs, extending posteriorly almost to the vertebral column. This new growth had so obliterated the divisions between the ribs and sternum as to leave but little trace of the original anatomical relationship. The color of the new growth was a yellowish-white, streaked with pale pink areas, where the blood supply was evidently more abundant. Upon section of the growth in various places, it was found to cut rather easily with an ordinary cartilage knife, and a section through the ribs or sternum showed, in many places, no trace of the original bony formation, the entire bone seeming to have been replaced by the new growth. This was so even in the thickest portions of the sternum. The process had evidently originated in the marrow of the bones and had infiltrated the surrounding bony structure, destroying it and extending from rib to rib, firmly uniting all the ribs and obliterating their structure. Sections were cut and stained from various portions of the growth, including the portions lying between the ribs and also through the rib substance. All the sections were carefully studied, and but little difference was noted in those portions of the growth which lay between the ribs and those portions involving the bone itself, save that in the latter here and there could be seen evidence of the histological elements of the bone. The sections of the tumor showed a delicate fibrillated reticulum enclosing in its meshes numerous cells, large numbers of which resembled in every way small lymphocytes. In portions of the sections taken through the new growth involving the bony structure of the ribs and sternum, small detached areas could be seen presenting the normal histological structure of the bone. These were, however, rather rare, showing that the new growth had entirely replaced the original structure. The histological structure of the tumor is best described simply as a reticulated connective tissue framework enclosing large blood spaces and numerous cells resembling the small lymphocytes. This structure was found to be the same through all portions of the tumor which were sectioned.

Conclusion:—From the clinical history and *postmortem* findings of the case just described, it will be at once seen that it is a case of chronic lymphatic leucemia, complicated by diffuse lymphatic infiltration of the sternum and ribs. This latter condition has been described by various authors under various names. The oldest designation of this variety of tumor is lymphosarcoma. This term has been used for a long period of time and has been generally accepted by a large number of investigators. Other names applied to the condition are angiosarcoma and lymphadema ossium, the latter being the name applied to the condition by Nothnagel. In an important paper upon the subject Weber calls the condition a general lymphadenomatosis of the bone. Other authorities, such as Klebs, Hektoen, Herrick and Ellenger, have given the name of myeloma to growths having the structure of the one described. From a study of the structure, either of the names, lymphosarcoma or myeloma, are good ones to apply to the peculiar growth which has been described. The name lymphosarcoma has the advantage of being the older term, and at the same time drawing attention to the malignant nature of the process. There can be no doubt that the condition is one of malignancy, as shown by the rapid and extensive growth involving and destroying the bone tissues. Its seat of origin is no doubt in the bone marrow, from which place it gradually infiltrates, softens and replaces the bone. In the case described, the excessive tenderness over the sternum, that is, over the new growth, was very marked, the least touch causing the patient to wince with pain. This may be of some value from a diagnostic standpoint in similar cases. The process consists essentially in an invasion of the bony tissues by the small lymphocytes, but at the present time nothing is known as to the exact etiology of the process.

MEDICAL PROGRESS.

PHYSIOLOGY.

Destiny of Adenin in the Body.—It is generally taught that the nuclear substance adenin, when fed to animals, is deposited in the kidneys as uric acid. But A. Nicolaier (Zeitsch. klin. Med., vol. 45, Nos. 5 and 6) has shown that the crystals are in reality not uric acid, but aminodioxypurin, which is closely allied to it. Both substances burn without melting, their barium salt is almost insoluble; excess of dilute alkali dissolves them, and their alkali salts are precipitated by strong alkalies; they are both soluble with difficulty in ammonia with the aid of heat; the murexid reaction is positive, and their silver salts form an amorphous precipitate, which is blackened by warming with silver nitrate. Important points of difference, however, are: Aminodioxypurin contains 41.9 per cent. of nitrogen, is soluble in 20 parts of 10 per cent. boiling hydrochloric acid, and in dilute hot sulphuric acid, while uric acid has only 33.3 per cent. nitrogen and is less easily soluble in the two acids mentioned. Besides, the form of crystals may vary. That aminodioxypurin may occasionally be present in human urine is possible; it could not, however, be detected in a large amount of normal urine analyzed, nor in uratic calculi.

Cocaine as a Thermogenic.—The temperature raising action of cocaine is one of its most characteristic properties, and, while no clinical significance has been attached to it, it is nevertheless of interest in the pharmacodynamic and physiological aspects. In determining the source of this production it is to be noted that the increase of heat production is closely associated with motor excitement; therefore, the first step is to eliminate this factor, if possible without involving the others. With this in view a series of experiments were made by REICHERT (Phil. Med. Jour., August 2, 1902) in which the action of cocaine was observed on curarized and morphinized dogs, also on dogs after section of the spinal cord at its junction with the bulb, and on others after section of the crura cerebri and injury to the caudate nuclei. This research has demonstrated the following facts: (1) That the rise of temperature caused by cocaine is due to an increase of heat production, and that the latter depends on two actions—one upon the cortex, causing motor excitement, and the other upon the caudate thermogenic center, by which heat is produced independently of motor activity; (2) that cocaine possesses very little power in lightly curarized animals, both because of the motor quietude and of the depression of some other portion of the thermogenic apparatus; (3) that cocaine is absolutely without thermogenic power in animals in which the pathways of thermogenic and corticospinal motor fibres have been cut, as after section of the spinal cord at its junction with the bulb and of crura cerebri; (4) that cocaine is effective as a thermogenic when only a small portion of the caudate center is left intact with the parts below; (5) that cocaine and morphine are direct antagonists in their actions upon the caudate and cortical centers which are directly or indirectly involved in the changes of temperature and of heat production.

Physiology of the Fasting State.—Through animal experimentation, A. G. BARBÈRA (Bul. Soc. Med. Bologna, vol. II, No. 1, 1902) has sought to determine the influence of inanition upon the secretory excitability of the chorda tympani, cervical sympathetic, and vagus, and upon the secernent activity of the cells of the submaxillary gland, stomach, and pancreas; the practical point in view being a knowledge of the conditions obtaining in starvation, for the better management of cases in which, through mental or other disease, there exists a state of inanition. The following findings are noted: (1) The secretory fibers for the submaxillary gland contained in the chorda tympani retain their electrical excitability almost until the death of the starving animal, and the secreting cells of the gland partially retain their function, while electrical stimulation of this nerve causes marked increase in the quantity of saliva, though not as much as in the normal state of nutrition; (2) excitation of the cervical sympathetic does not promote salivary secretion; (3) subcutaneous injection of pilocarpin causes increased secretion of saliva, which diminishes or ceases after a subsequent injection of atropin, curare injected into the veins increasing this secretion; (4) electrical excitation of the chorda tympani after injection of pilocarpin causes additional increase of saliva, but such excitation fails to promote the secretion after it has been arrested through injection of atropin; (5) if the nerve be intact a piece of blotting-paper, dipped in acetic acid and placed in contact with the buccal or lingual mucosa, causes a copious flow of aqueous, limpid saliva; (6) the saliva obtained by all these methods shows, through chemical tests, absence of sulphocyanate of potash and, through artificial digestion, absence of the diastasic ferment, both of these being believed to be absent in the saliva of the dog under normal conditions, and the dog having been used in these experiments; (7) the fibers of the vagus which excite gastric secretion, as well as the intrastomachal nerve-ganglia which preside directly over gastric secretion, and the secreting cells all preserve, almost to the end of the starving animal's life, electric excitability and secreting power—the latter qualitatively but not quantitatively—and the small amount of gastric juice thus obtained contains a minute quantity of free hydrochloric acid and pepsin, as shown by its power, within restricted limits, to change egg-albumin into peptone; (8) curare injected into the veins induces secretion of gastric juice which has the same characteristics and properties as that obtained by excitation of the vagus; (9) in starving animals electrical secretory excitation of the pancreatic fibers of the vagus is not abolished, neither is that of the intrapancreatic nerve-ganglia which preside directly over the pancreatic secretion; (10) the secernent capacity of the pancreatic cells is retained and the reciprocal connection between these three elements is uninterrupted. Curare injected into the veins causes secretion of pancreatic juice. The pancreatic juice obtained by these various methods possesses to a limited degree the power to transform albumin into peptone and starch into glucose.

Physiological Action of Extracts of Nervous, Muscular and Other Animal Tissues.—It was shown by Osborne and Vincent that extracts of nervous tissues, when injected into animals, cause a fall in blood-pressure. This is not due to the presence of cholin, which produces a rise in blood-pressure. Although Halliburton claimed that both cholin and extracts of nervous tissues occasion a rise in blood-pressure, the results of S. VINCENT and W. SHEEN (Jour. Phys., July 21, 1902) agree with those of the former investigators. Whereas, before the administration of atropin both cholin and nervous-tissue extracts produce a fall of blood-pressure, after its administration in large doses cholin produces a marked rise, while nervous-tissue extracts produce a marked fall. This depressor substance can be extracted with alcohol. It is also found in muscular tissues, whether striped, cardiac, or unstriped. Its power is not so marked as in the case of nervous tissues, but is exerted after doses of atropin sufficient to completely abolish vagus action. This depressor substance is contained in extracts made with boiling normal salt solution as well as in alcoholic extracts. Extracts of testis, kidney, spleen, pancreas, gastric and intestinal mucosa, lung and mammary gland all produce a fall of blood-pressure. Certain tissue extracts, as that of the kidney, give complex results, the explanation of which the authors are not prepared to enter upon. The suprarenal glands and the infundibular portion of the pituitary body appear to be the only animal tissues which yield a pressor substance. The latter also contains a depressor substance of the same nature as that contained in nervous tissues generally.

Metabolism in the Nervous Centers.—Very little is known about the exchanges of tissue that occur in the ganglion cells of the central nervous system. There can be little doubt that these exchanges are amenable to the same laws that govern metabolism in other tissues. Thus, H. VON BAEYER (Zeitsch. all. Phys., vol. I, No. 3) found that in cold-blooded animals there occurs in the cold a storing-up of oxygen in the ganglion cells greater than that which occurs when the temperature is warm. This storage of oxygen occurs in particular reservoirs. The transportation of oxygen from the reservoirs to the site of its consumption is hindered by cold and promoted by warmth. In the condition of strychnine tetanus nerve-impulses have a frequency less when the temperature is cold than when it is warm.

Metabolism and Diet.—In a series of experiments on the effect of forced feeding on the metabolism of normal individuals, F. W. GOODBODY, N. D. BARDSWELL and J. E. CHAPMAN (Jour. Phys., July 21, 1902) found uniformly bad effects. The subjects experimented upon reached a condition of complete failure of appetite, they complained of a feeling of weight and distension in the abdomen; some of them suffered considerably from hemorrhoids due to the large quantity of blood in the portal circulation, and most of them experienced colicky pains and suffered from mucous colitis. In one case there was considerable disturbance of sleep, a great deal of dyspnea on exertion, while exercise caused well-marked pain in the hepatic region. The authors summarize the results of forced feeding as follows: A very small quantity of nitrogen is retained in the tissues, except when the forced feeding is extreme; the subjects pass an increased quantity of urine, of very high specific gravity, more or less proportional to the increased intake of fluids, contrary to what has been observed in pathological conditions; there is a marked increase in the total nitrogen in the urine, the proportion of this as urea remaining normal all through; there is no marked difference in the proportion of uric acid and ammonia; the inorganic constituents are markedly increased; there was no marked increase in the total quantity of nitrogen in the feces, contrary to what was to be expected; there is a temporary increase in the rate of absorption of nitrogen in forced feeding, as against the tendency to a diminution in the rate of absorption of fats during the same period; there is a rapid increase in weight during a period of forced feeding, which as rapidly decreases when the forced feeding is discontinued. In general, there is a marked deterioration of health.

Some New Properties of Urea.—The presence of urea up to saturation, according to W. Ramsden (Jour. Phys., July 21, 1902), prevents the coagulation by heat of all proteid solutions examined. Globulins, caseinogen, acid- and alkali-albuminate, fibrin, even heat-coagulated proteid, swell up and dissolve in a saturated solution of pure urea. Dry gelatin is dissolved until 40 per cent. is in solution. The presence of urea facilitates the formation of acid- and alkali-albumin. It has a marked accelerating effect upon the digestion of fibrin by pepsin-HCl, or by trypsin. A saturated solution of urea is a valuable histological reagent; by its action on the connective tissues it greatly facilitates the separation of a tissue into its individual elements. Ammonium cyanate and thiocyanate produce many of the effects of urea. The effects of urea upon proteids are of two kinds; first, those of a substance that renders them more prone to zymolysis, and their conversion into acid- or alkali-albuminate; secondly, they are protective, since coagulable proteids are not heat-coagulated in its presence, but reacquire this coagulability when the urea is withdrawn by dialysis.

Pancreatic Digestion and the Spleen.—Extracts of the spleen prepared when this organ is congested during the period of digestion increase the proteolytic power of the pancreas, according to L. B. Mendel and L. P. Rettger (Am. Jour. Phys., August 1, 1902). Injections of defibrinated blood from the splenic vein are also effective. On the other hand, boiled extracts of the spleen are ineffective. Extracts of other tissues (liver, pancreas) appear to have little action. This is true also of pure saline infusions. The precipitate produced by the addition of alcohol to active splenic extracts contains a trypsinogenic substance. The extracts of the pancreas of splenectomized dogs are not always free from trypsin. The transformation of the pancreatic zymogen into trypsin is facilitated in two ways; first, by an intrapancreatic process facilitated by the spleen (Herzen); secondly, by an extrapancreatic process facilitated by the intestinal secretion.

A New Method of Determining the Action of Pepsin.—By determining the viscosity in the viscosometer of solutions of albumins undergoing digestion, E. I. Spriggs (Zeitsch. phys. Chem., vol. 35, No. 6) has found a new method of investigating the action of ferments. He states that the viscosity of a solution of coagulable albumin gradually diminishes during the process. The same is observed in the absence of pepsin, with hydrochloric acid alone, though to a less marked degree. If the variations in viscosity are illustrated by means of a curve, this is first steep and finally more level, until the largest part of coagulable proteid is so changed as no longer to be coagulable, when the viscosity remains constant. Specimens of the same proteid solution, treated with different amounts of pepsin, with the same degree of viscosity contained the same amount of altered and unaltered albuminates. The curves obtained represent a mathematical formula, showing that the relations are constant.

The Role of the Nucleus in Oxidatve Processes.—Many experimental studies have tended to prove that the nucleus exerts a directive control over cellular activities. According to R. S. Lillie, (Am. Jour. Phys., August 1, 1902), there is conclusive evidence that in many tissues the nucleus is the chief agency in the intracellular activation of oxygen; and furthermore, that the active or atomic oxygen is in general most abundantly freed at the surface of contact between nucleus and cytoplasm. If this relation of the nucleus to oxidation is a constant characteristic of the cellular organization—as seems probable—the inference is clear that the oxidative activities of organs must be largely a function of their extent of nuclear surface. The same conclusion applies to the synthetic processes in so far as they are dependent upon oxidation. The distribution and arrangement of the nuclei, quite apart from their number and united surface-area, may also be of great importance in relation to the physiological activity of the organ. The intense oxidative activity of the intestinal mucosa is conditioned in large part upon the columnar arrangement of the epithelial cells.

The Influence of Altitude on the Composition of the Blood.—That high altitudes have a favorable effect on quality and number of the red blood-cells is the result of the observations of E. Abderhalden (Zeitsch. Biol., vol. LXIII, No. 2). In going from lower to higher altitudes the number of red blood-cells increases; likewise in descending from a higher to a lower altitude the number of red blood-cells diminishes. The same rule applies to the quantity of hemoglobin. The increase takes place immediately and remains constant during the entire stay at the higher altitude, but the decrease accompanying descent takes place gradually, until after four to six days a constant number is reached. The hemoglobin and the red blood-cells rise and fall in the same degree.

The Innervation of the Urinary Passages.—The knowledge of the nervous mechanism of the bladder is complicated by the fact that, like all other viscera containing smooth muscle, this organ is supplied with two sets of nerve fibers; namely, sympathetic and sacral nerves. These have been held to be antagonistic in function, but it is the opinion of C. H. Fagge (Jour. Phys., July 21, 1902) that the difference between these two sets of nerves is morphological rather than physiological. This author studied the mechanism of the evacuation of the bladder and found that when all the vesical nerves are divided micturition can only be effected by a rise of pressure within the bladder sufficient to overcome the resistance at the neck, there being no evidence of a diminution of this resistance by the direct agency of nerves. It is evident that whenever the sphincter mechanism is called into play by stimulation of the hypogastric nerves the urethra contracts along its whole length. The whole urethra is a sphincter mechanism of the bladder, though from a mechanical standpoint the section of urethra nearest the bladder must always be of the greatest importance for the mere retention of urine. The author believes that the resistance to the outflow of urine at the neck of the bladder is largely due to tonic contraction of the circular fibers of the urethra at this point, whether any special ring of tissue be present or not. The effect of this contraction is probably aided by physical conditions, such as the apposition of the mucous membrane along the whole length of the urethra, or the tendency of the weight of urine in the relaxed bladder, and of the pressure exerted by the abdominal walls, to press the two walls of the urethra together.

Action of Cholinchlorid on Circulation.—Intravenous injections of the chlorids of cholin were found by E. FORMANEK (Arch. internat. Phar. et Thér., vol. x, fasc. III, IV) to produce a fall of blood-pressure with acceleration of the pulse, soon followed by a rise with slowing of the heart's action. The depression and acceleration are due to a direct action of the drug upon the heart, the retardation most likely depending upon an irritation of the vagel centers, and the rise in blood-pressure upon stimulation of the peripheral vasoconstrictor mechanism in and outside of the splanchnic area.

Investigations on Glycogen.—In an article on the glycogen metabolism of the heart, P. JENSEN (Zeitsch. phys. Chem., vol. 35, No. 6) finds that the muscle has the peculiarity of still possessing a large percentage of glycogen when the skeletal muscles are almost entirely deprived of it, though normally the latter contain somewhat more than the heart. It is still possible, however, for the glycogen, free organ to contract. As an improved quantitative test for glycogen, the following method, is recommended: The fluid obtained from the organ to be tested is treated with an iodine solution and then diluted until the color of the mixture corresponds to a normal solution, containing definite percentages of glycogen, salt, hydrochloric acid and iodine solution. By means of a special scale the percentage is then read off.

Fate of Uric Acid in the Body.—Uric acid, when given to dogs, is absorbed to an appreciable percentage, according to E. SALKOWSKI (Zeitsch. phys. Chem., vol. 35, No. 6). The absorbed portion is converted chiefly into allantoin and urea; it varies considerably in different experiments, and does not seem to be proportional to the amount of uric acid ingested. The experiments were repeated with rabbits, when it was found that the larger portion is absorbed and is converted chiefly into urea, a small amount only being changed into allantoin or excreted as such.

The Composition of Human Fat.—The fat of an adult human being, according to H. JAECKLE (Hoppe-Seyler's Zeitsch. phys. Chem., August 9, 1902) consists substantially of the glycerides of oleic, palmitic and stearic acids. Excepting small traces of the lower fatty acids, no other acid ingredients have been discovered. The chemical composition of fat is subject to considerable individual variations. In the first months of life fat contains a much higher content of oleic acid. The state of nutrition has no influence on the synthesis of fat. In lipomas the fat in general differs not substantially from normal fat. It may be stated as very probable that the lecithin content of rapidly growing lipomas is markedly diminished below the normal. Fat can undergo extraordinary transformations as the result of pathological processes. The author believes that calcium soaps take part in the process of calcification.

NEUROLOGY.

Cerebral Activity in Infants.—The great difficulty of deciding whether in the newly born and the very young the cortical cells are active, is responsible for the great diversity of opinion on the subject. M. THIEMICH (Zeitsch. klin. Med., vol. 45, Nos. 3 and 4) has resorted to a new method, which consists in determining whether certain coördinated movements, such as the opening and closing of the hand and the lengthening and shortening of the leg, where it is known that the orderly contraction of the muscles requires the highest functions of the brain, are possible at so early an age. In only very few nurslings, several days old, were the results positive, but there was no doubt that the motor areas had their full power by three to four months. No evidence could be obtained that restless children attain the power of coordination more rapidly than the quiet.

Acute Hemorrhagic Encephalitis.—Acute hemorrhagic encephalitis, is a disease which usually affects the young, shortly after an infectious disorder, usually an influenza. After a short prodromal stage the severest cerebral symptoms set in of the type of convulsions, severe cephalalgia, coma and extensive paralyses. Recovery is rare, and it requires weeks and months before it is complete. Pathologically there is an inflammatory process with multiple hemorrhages, involving more or less of the cerebral surface, generally small in size, but occasionally so extensive as to resemble an apoplectic focus. They are probably the result of toxins, but influenza bacilli have been found in them. It was the good fortune of D. STEGMANN (Münch. med. Woch., July 22, 1902) to carry a patient successfully through this serious disease with rest, ice applications and evacuants.

Spinal Cord Condition in Severe Anemias.—Degenerative processes secondary to severe anemias have been recognized in the spinal cord only during recent years, and the symptoms which are frequently found are doubtless liable to be interpreted as due to other structural changes. A. CHURCH (N. Y. Med. Jour., July 26, 1902) has met with a number of such cases, and found these changes in the spinal cord to occur not only in classical pernicious anemia cases, but also in cachectic states of long duration attended by toxic factors. Examination of a large number of cases proves that the changes in the cord are in a sense mechanically located; that is, those portions of the cord less well supplied with blood are the first to suffer. The posterior half containing the sensory and motor conducting paths are therefore more frequently involved, but the gray matter, or even the anterior horns, may be affected. The symptoms are variable and obscure, and may be overlooked; but in some cases they are prominent enough to lead to the diagnosis of tabes, spastic paraplegia, or a neuritis. Symptoms of any of these conditions may be present, depending upon the portion of the cord involved. Almost invariably these patients complain principally of disturbances of sensation. They describe numbness, tingling, and formication, usually in the lower extremities, sometimes in all four. The sensation may be that of pressure from within or without, some feel as if tight bandages were drawn around their limbs. With these sensations there may be a reduction in the reflexes, causing a suspicion of neuritis. There is usually very little atrophy, and the electrical reactions are normal; but sometimes the gray matter of the cord is involved, and both atrophy and electrical changes may be present in the terminal stages. Paralyses, loss of sphincteric action and marked mental disturbances have been observed, and severe cases usually perish miserably. The prognosis depends entirely upon the blood condition. A great deal has been done in several pernicious anemia patients by continuous efforts to keep the intestinal canal aseptic and to add to the quantity as well as quality of the blood.

Intestinal injections of normal saline solution as often as every two hours have sometimes resulted very beneficially. Hematogenic drugs and intestinal antiseptics, with careful dietetics, may be judiciously used.'

Etiology of Chorea.— In a careful article, G. Koster (Münch. med. Woch., August 12, 1902) states that in over 71 per cent. an infectious etiology could be obtained in chorea. Not only are endocarditis and articular rheumatism frequently mentioned in the past history, but often some catarrhal condition of the respiratory tract, as angina, bronchitis, laryngitis or influenza, seems to be the precursor, alone or in various combinations. Of the non-infectious cases, the majority of patients possessed a neuropathic tendency and were considerably run down, through rapid growth, overexertion, or insufficient nourishment, and frequently showed the stigmata of a past rachitis or scrofulosis. Here the most frequently mentioned cause seemed to be fright, and often hysteria played an important part.

The Treatment of Nervous Headaches.—In an article on the treatment of functional neuroses, S. Auerbach (Berlin. Klinik, August, 1902) discusses the causes and therapy of nervous headaches. In investigating a given case a careful examination should be made of the internal organs. One should examine for tumor of the brain with the ophthalmoscope. In advanced age arteriosclerosis of the cerebral vessels is frequently the cause. Other causes are cerebral syphilis and periostitis luetica (headaches worse at night), refraction anomalies, as well as diseases of the nose and its accessory sinuses, chronic nephritis, diabetes, alcoholism and nicotinism, gastro-intestinal diseases and constipation. Of great importance are the anemic headache, which are to be treated with iron and the bromides, the latter being of eminent value in all forms of nervous headaches. The headaches of the neurasthenic include the sensation of pressure, of a tight band about the head, or of a leaden cap. Hysteria is another cause that should not be overlooked. The most frequent form of nervous headaches is hemicrania or migraine, which is diagnosticated by its heredity, periodicity and accompanying symptoms, as vomiting, spots before the eyes, etc. These cases are seldom cured entirely in the young and middle-aged, but are more frequently combated with success in the fifth and sixth decades of life. The treatment is like that of neurasthenia. The pain is diminished and the number of attacks lessened by doses of bromide of from three to six grams per day. Arsenic used for a long time is frequently of great value. Other remedies are hardly as efficacious as the above. The best are the coal-tar products. The habitual headaches are mostly neurasthenic; in the beginning they have the traits of hemicrania, which later disappear. A very common form of headache is what the author calls the "nodular" form. Principally of a rheumatic nature, it almost always begins in the back of the head and spreads over the sinciput and forehead. In cases that have lasted a long time the headache is constant, increases when the patient lies down, and frequently becomes most agonizing, with no remission at night. In these patients there are found along the linea semilunaris of the occipital bone, also along the back of the neck, and sometimes in the parietal fascia, nodes varying in size from a millet-seed to a bean, mostly flat, but at times prominent and always very sensitive. The patients often complain of pain in the back and along the arms, where similar nodes are found. One characteristic of these patients is that they are extraordinarily sensitive to wind, cold and dampness. The disease is most frequently seen in women. The treatment in the beginning is the application of warmth and massage, which should be persisted in notwithstanding the pain caused. In the acute stage one should employ sodium salicylate or aspirin in fair doses.

SURGERY.

Cocaine in Metatarsalgia.—In a case of the malady of Morton, without disease of the bones of the foot and toes, H. Vurger of Bordeaux (Sem. méd., No. 34, 1902) decided, on account of the failure of every means of treatment which the patient had previously had, to use injections of cocaine to control the pain. In order to define at the outset, if possible, the point of departure of the pain producing spasms, he made, at the point of greatest tenderness, an injection of one c.c. of cocaine, two per cent., pushing the needle-point down to the bones themselves. After a few minutes all pain on pressure disappeared, and during five weeks subsequently, no crisis recurred. At the end of that period he made another similar injection, and since that time the patient has had no attacks whatever. At the time of Vurger's writing, only three months had elapsed since the second injection was carried out, and therefore the cure could not honestly be considered absolute, but the result is certainly instructive and suggestive, because the patient previously had not passed a single night without an attack of severe pain, and occasionally suffered four or five of them in one day. Another significant fact is that ordinarily metatarsalgia is very rebellious to treatment.

Infection with Gas-Producing Bacteria.—The almost uniformly fatal results of infection with gas-producing bacteria in the tissues makes all information on the subject valuable. The following conclusions are offered by P. Albrecht (Arch. klin. Chir., 1902, B. 76, H. 3): Infection of wounds with gas-producing germs is possible during operations through the dust of the room alone, notwithstanding all the precautions of asepsis and antisepsis. If, in these cases, there is a pure infection with these germs, the symptoms about the wound are comparatively few. There are signs of infection, prostration, burning and pain in the wound, increase in the pulse and temperature. Nevertheless, in many cases, if the wound is opened and cleaned of the serohemorrhagic fluid in it, recovery is comparatively rapid and complete. With mixed infections of these gas-producing germs and the pus-producing germs the typical danger of gaseous gangrene appears. In seven cases observed by this author, the only effective means was the freest possible drainage. All of these patients recovered. "Bacillus of the malignant edema" is a collective term for a class of aerobic and anaerobic germs. All of these, when injected under the skin of animals, provoke a disease resembling or exactly like that which Robert Koch induced by similarly injecting foul fluid beneath the skin of guinea-pigs, from his results calling it malignant edema. Of six different kinds of the aerobic bacilli which this author has investigated four are similar to the bacillus described by Welch and Fraenkel with varying degrees of exactness. Two seem to be essentially like the germs described by Schattenfroh and Grossberger under the name of bacilli of rancid butter. In accordance with Albrecht's observations, most of the cases which are described in literature as malignant edema in man do not deserve that title. The diseases which are presented under this name ought to be called gaseous infections.

Treatment of Appendicitis with Salicylate of Soda and Belladonna.—It is some time since T. R. Brunton (Sem. méd., No. 33, 1902) treated with great success appendicitis by means of salicylate of soda and belladonna in high doses. He prescribes 0.90 of a gram. to 1.20 of a gram. of salicylate of soda and 10 to 15 drops of the tincture of belladonna every two hours.

The two medicines may either be given together or alternated. It may be wise not to mix them, because it is important to cease the administration of either just as soon as symptoms of intolerance arise, such as ringing in the ears for salicylate of soda, and dryness of the throat, dilatation of the pupils and excitement of the pulse for belladonna. So soon as it is manifest that any of these symptoms are arising, it is well either to stop the drug for awhile, or to decrease the doses liberally.

Operations on the Spinal Cord.—It is not many years since various authorities described surgical approach of the spinal cord as unwarranted, ultrahazardous, and its results as problematical. The general attitude was to leave to a supposedly inevitable fate those unfortunates whose vertebræ were broken or dislocated. Then there came an era during which it was recognized that surgical operations on the spinal cord were justifiable, notwithstanding their dangers and difficulties, when the symptoms pointed to pressure rather than destruction of the cord. At the present time we have advanced one step further in having recognized that nerve tissue is capable of considerable regeneration, even when the symptoms at a given time point to the contrary. We therefore operate on an increasing number of cases, and on the whole with greater success. But the niceties of deciding which cases are best to operate on, and when to do the work, are still in dispute. E. Hahn, in a valuable article on this subject (Deut. Zeitsch. Chir., B. 65, H. 5 and 6, 1902), seeks to answer these questions in the following terms: It is impossible to operate too early on patients suffering from compression of the cord through fracture of the vertebral arches. If, after excision and exposure of the arches, it is evident there is no fracture, it is perhaps better not to proceed any further at that sitting. With fracture and compression complicated with dislocation, and undoubtedly resulting in absolute destruction of the spinal cord, it is manifestly improper to do any operation. As long as there is distinct evidence that the case is one of contusion with bleeding, operative interference should be withheld. Weakness or paralysis of the muscles, due to fracture with compression by a narrowing of the canal, naturally require a laminectomy, with the purpose of freeing the cord from the pressure. In these cases it frequently happens that the source of pressure proceeds from the body of the vertebræ; therefore removal of the arches will often entirely relieve it. If this should not succeed, it is probably justifiable to attempt to remove whatever portion of the body of the vertebræ presents. To carry out this procedure it is necessary to draw the spinal cord aside with great gentleness, in order to chisel away the offending bone. The most difficult point in all these cases is to decide the time for operating. His conclusion on this is that operation must be undertaken just as soon as it is decided that without it no improvement can possibly occur. All cases which may undergo improvement without operation should be allowed to make this progress first. As a rule, in such patients late operations bring about better results than very early interferences.

Diagnosis of Congenital Dislocation of Hip.—It has been shown that many children are born not with the hips already dislocated, but with a decided anatomical tendency toward dislocation as is shown by changes in the contours of the acetabulum and the head of the femur, as well as in the relation of the two to each other. It is extremely difficult to make the diagnosis in the newly born, and the average physician does not possess a Roentgen apparatus to aid him. P. Bade (Münch. med. Woch., August 26, 1902) draws attention to several folds whose course varies in dislocation. One of these runs downward and inward between the quadriceps extensor and the adductors; another is situated somewhat lower and begins nearer to the median line. In normal thighs both sets of folds are situated equally high, and the adductor folds meet on the inner sides of the thighs, but there is a distinct asymmetry where there is only a disposition to luxation. By carefully observing these lines the diagnosis can be made very early and treatment begun before the children walk.

Abdominal Wounds.—The treatment of abdominal wounds, especially those complicated by prolapse of the omentum and injury to the spleen, is discussed by O. Bernhard (Correspbl. schweiz. Arzt., August 15, 1902). Concerning the omentum, either of two courses may be followed—the expectant one, where the hemorrhage in the prolapsed portion is stopped, the entire region carefully sterilized, and the omentum wrapped in sterile gauze, to be removed later when demarcation occurs; or where the piece is reduced. Though the records show that success may follow both procedures, the second seems preferable, since, with the first, strangulation of a loop of intestines may occur later, and any hemorrhage occurring in the abdominal cavity is obscured by the plug in the abdominal incision. When, on performing a laparotomy, an injury to the spleen is discovered, the attempt should always be made to treat it by suturing. If this is impossible no time should be lost in extirpating the organ. That this need not seriously influence the composition of the blood is shown by a case reported by the author, but it is a strange observation that the laparotomy wound did not heal so well, and that the sutures gave way, which may have been due to change in the fibrin formation of the blood induced by the absence of the spleen, and may fall into the same category as the hemorrhages seen in leucemia. Injuries to the liver are less dangerous when they involve the convexity, since here the blood and bile channels are smaller in size and tamponade will generally suffice, but it is always advisable to so enlarge the wound in order that no other hemorrhages be overlooked. Cuts in the diaphragm require suture to prevent subsequent diaphragmatic hernias, but the diagnosis may occasionally be very difficult; if not, as in this case, the entrance of air, after opening the abdomen, is followed by an audible noise.

Treatment of Ulcers of the Leg.—In ulcers of the leg, not larger than a dollar, the following method of treatment is advised by C. Chenowith (Med. Rec., August 30, 1902). The leg is put into hot water for an hour, washed with soap and clean water, dried, then washed with a weak formaldehyd solution, dried thoroughly, and dusted with boracic acid powder. Strips of rubber adhesive plaster half an inch wide are then applied tightly, beginning just above the toes and overlapping each lower strip up to the knee. An ordinary roller bandage is then applied. This dressing remains till the discharge shows through, which will be about six or seven days. Another dressing is then similarly applied. If the ulcers are larger the patient should be put to bed and a moist dressing of one ounce of boracic acid to a quart of water be applied. At the end of two weeks the ulcer will usually be small enough to begin the above treatment.

Double Craniectomy.—Probably one of the most remarkable examples of successful cerebral surgery on record is that reported by A. Ghedini. (Rif. Med., August 29, 1902). The brain of the patient operated upon had been pierced by the prong of a pitchfork in such a manner that, entering the right parietal region, it passed completely through the brain, making its exit in the left parietal area. Its path was marked by fracture of the right and left parietal bones and laceration of both cerebral hemispheres, resulting in delirium, unconsciousness, left hemiplegia, right crural monoplegia, epileptiform convulsions, and clonic contraction of the right arm followed by paralysis. Double craniectomy was performed, which operation revealed a large subdural hematoma in the right rolandic zone, with extensive laceration of brain tissue, and compression of the left side by a fragment of bone. After clearing out the hematoma by curettage, and removing all loose bone, a gauze drain and temporary sutures were inserted in the wounds of both sides. The patient bore the operation well, and left hemiplegia disappeared in the evening. On the second day the drains were removed and the wounds permanently closed. Within seven days they healed by first intention. Gradual disappearance of all symptoms followed the operation, so that within less than three months there remained but a slight remnant of paralysis in the right lower extremity.

Treatment of Surgical Tuberculosis.—In reviewing the various tuberculous lesions which fall to the lot of the surgeon to treat, L. F. GARRIGUES (Med. Rec., August 23, 1902) describes the ordinary method of enucleation of the glands of the neck, but mentions a new application which he has found very effective in the treatment of those chronic discharging sinuses of the neck due to the gradually breaking down glands, and where operation is impossible or impracticable. The sinus should be laid open freely, and butter of antimony applied to the floor. This causes a sloughing of the degenerated tissue, varying in depth from that of a film to half an inch. This substance is used considerably in veterinary surgery, but is little known to the medical profession. It is a strong escharotic, and must be used with caution, as severe hemorrhage may be caused. The slough should not be removed, but allowed to separate, and a second application should be made only after granulations have formed.

Primary Carcinoma of Appendix.—Since a malignant growth primary in the appendix will seldom give symptoms till it has involved the cecum also, operations for the relief of this condition are seldom made soon enough for a diagnosis of the above condition to be made. Only 13 such cases have been reported. A woman, thirty-six years old, was recently operated upon by Dr. Clement Cleveland for disease of the uterine adnexa, and as the appendix was bound down by adhesions it was removed. Upon microscopical examination D. S. D. JESSUP (Med. Rec., August 23, 1902) found that the appendix contained a small but distinct adenocarcinomatous growth at about its middle, where there was a sharp bend and the lumen was obliterated. In reviewing the previously reported cases it is found that four were under thirty years of age, and that the growth is usually at the apex. Routine examinations of appendices will undoubtedly show that it is a more frequent condition than is now supposed.

HYGIENE.

Borax as Food-Preservative.—In a series of articles in the Arb. kais. Gesund., vol. 9, No. 1, the danger of the use of boric acid and borax in the preservation of food are fully discussed. As is well known, ham, bacon, sausage, fish, caviar, milk, butter, etc., frequently contain as much as 3 per cent. of the drug, so that under normal conditions as much as several grains a day may be taken into the system by consumers. Experiments on animals, as well as on man, do not seem to give evidence of any pronounced local action of borax on the mucous membranes, except with large doses in a concentrated form, and then borax acts more intensely than does boric acid, causing eructations, nausea, vomiting and diarrhea. The absorption of the nitrogenous principles of the food was considerably delayed, but no specific effects upon proteid metabolism could be determined. After the prolonged use there was considerable and rather sudden loss of weight, probably due to increased fatty dissolution. Excretion was found to be very slow. The influence of the borates on the milk hindered coagulation even in considerable dilution, and thus rendered the milk less valuable for nurslings. Other effects on the organism were diuresis and eruptions. The general conclusion is that the use of borates in food should be interdicted.

Faulty Methods of Fumigation.—The usual methods of fumigation have lately been superseded to a great degree by the formaldehyd-gas process. G. E. PFAHLER (Phil. Med. Jour., August 16, 1902) has investigated the latter method and finds that it must be improved in application or else it will in turn be discarded. He exposed cultures of the ordinary germs in rooms carefully fumigated with formaldehyd gas, after well-advocated methods, and permitted a large margin, both as regards the exposure and the quantity of material used. The results were almost entirely negative, and the fact that the most common forms of bacteria were so little affected may be taken as an indication that the germs about which we are in ignorance—measles, scarlatina, mumps, etc.—were probably not killed. The author thinks that a more satisfactory method of application will necessitate an apparatus capable of generating the gas either ten times as fast or in a more concentrated form.

GENITO-URINARY AND SKIN DISEASES.

Radical Cure of Ischuria from Hypertrophied Prostate.—The radical cure of this condition by cauterization of the prostate through the rectum is described in detail by the originator of the method, A. NEGRETTO (Gazz. Osped., August 10, 1902), by whom it is considered superior to the numerous measures hitherto employed, in that it is promptly efficacious and requires but few and simple instruments of moderate cost and easy application. The requisite tools are a speculum—preferably the trivalvular of Weis—a tenaculum devised by the author, the special advantage of which lies in a scale, marked upon its handle, which indicates whether or not it be displaced, and a Paquelin or galvanocautery. The rectal route for cauterization makes it possible to treat the entire prostate, whereas Bottini's method permits cauterization only of the middle lobe. The doctor proceeds as follows: Two nights before the operation a purge, preferably of oil, is given, and the night before, a large dose of bismuth (eight to 10 gr.) with opium (1¼ gr.) is administered. One hour before the operation a glycerin enema is given to guard against the possibility of fecal infection of the operative site during the operation. General anesthesia is preferred, but where this is impracticable an alcoholic solution of chloral with morphine has rendered the procedure painless. The patient is placed in the perineal-lithotomy position with the pelvis well raised; rectum dilated with the speculum and packed with sterilized gauze above the prostate. The speculum is then withdrawn, the left index-finger introduced into the rectum, and the center of the gland is sought. Following the index as a guide, the tenaculum is inserted at this point, slight traction upon it being exerted by an assistant. The speculum is replaced and, if necessary, gauze packing introduced to hold back any folds of the rectal mucosa. Cauterization with the Paquelin or galvanocautery is then practised all around the point where the tenaculum is inserted, the cautery being laid flat. The extent and depth of cauterization are regulated according to the size of the gland; but usually it is superficial, as this is generally sufficient to induce involution. However, in the case of a very large gland it has been found advisable to supplement flat cauterization by deep insertion of the cautery immediately around the tenaculum and about to the depth of its point. The operation is said to last only about two minutes. After the operation the dose of bismuth and opium is repeated, that the site of operation may be kept clean for several days, and a permanent Nélaton catheter is left in position for a few days, its removal being followed by thorough disinfection of the bladder and urinary passages. The advantage claimed for such use of the catheter is reduction of congestion through mechanical distention of the urethra, and consequent facilitation of the discharge of urine from the bladder. This decrease of congestion plays no small part in the reduction in the size of the gland. On the sixth or seventh day a purge of oil is given, the resulting stool causing the discharge of the gauze packing, which has been left in situ. Usually after 10 or 12 days the catheter is permanently removed, and urine is thereafter voided naturally. In the 12 cases so treated Negretto has had marked improvement or permanent cure, with no unfavorable effects save in a few instances in which there was bloody urine for a day or two after operation. An important factor in the reduction of the size of the prostate by this method is believed to be its power to overcome congestion. The operation is also said to be devoid of danger and to have the inestimable advantage of being without effect upon the genital organs.

THERAPEUTICS.

New Treatment for Parotiditis.—From the benign course which this disease usually follows has arisen a somewhat indifferent mental attitude as to its treatment, yet when its possible complications are taken into consideration, an effective therapeutic measure for its control must needs be welcome to all physicians. E. Grande (Gazz. degli. Osped., August 10, 1902) offers a valuable suggestion in his adaptation of guaiacol ointment to the treatment of the disease. In a series of 12 cases he has had only good results from the use of the remedy, pain and swelling disappearing after two or three applications, and in some instances after one. The surface irritation observed when this remedy is used in orchitis and epididymitis is absent in parotiditis. The writer uses a 5 per cent. guaiacol ointment, applying it to the entire parotid region, and covers this with carbolized cotton. A bandage is then applied with some compression. The dressing is removed within 24 hours and the medicament reapplied, this procedure being repeated as often as necessary. The author thinks it possible that the volatile nature of the remedy may facili- oral cavity and pharynx, thus giving it an added value tate the penetration of its antiseptic properties to the in the treatment of parotiditis.

Iodin Reaction on Leucocytes.—The action of iodin on the white blood-cells in various diseases was made the subject of an investigation by R. C. Cabot and E. A. Locke, the results of which have been lately published. E. A. Locke has made a series of clinical tests in 800 cases, and publishes the following conclusions (Bost. Med. and Surg. Jour., September 11, 1902): Septic conditions of all kinds, including septicemia; abscesses and local sepsis, except in the earliest stages; appendicitis, accompanied by abscess formation or peritonitis; general peritonitis; empyema; pneumonia; pyonephrosis; salpingitis with abscess formation; tonsilitis; gonorrheal arthritis; hernia and acute intestinal obstruction, where the bowel has become gangrenous these have invariably given a positive iodophilia, and by its absence all these cases can be ruled out in diagnosis. In other words, no septic condition of any severity can be present without a positive reaction. The test should, of course, always be considered in connection with other clinical features. The author believes the iodin test to be a far more reliable and constant indication of the severity of an infection than either the leucocyte count or the temperature.

Injection Treatment of Syphilis.—The objections to the hypodermic injection method in treating syphilis are believed to have been largely overcome in a formula devised by M. L. Heidingsfeld (Jour. Am. Med. Assoc., September 13, 1902). He has modified Lang's formula, which was found irritating and difficult to preserve. A bidistilled form of mercury is used, the same that dentists employ in amalgams, six grams of this being incorporated with two grams of lanolin in a clean mortar. Two grams of "liquid albolene" are then added, which holds the constituents in suspension and renders the mixture sufficiently fluid for injection. He uses a seven-eighths inch 22 gage steel needle and injects deeply into the subcutaneous tissue, preferably at the most prominent part of the buttocks. The author's rule is to give an injection every fourth day, using a grain dose (which contains about one and one-third grains of metallic mercury) and continuing until 15 injections have been administered. In recent cases three courses of injections are given during the first year of infection, two the second, one the third, and one every two or three years thereafter. During a period of 12 months the author used the method with gratifying results in 240 cases, more than 2,000 injections having been given. Pain is seldom noted, and if present is usually slight. Induration is not marked. Other complications are readily avoided by care in administration. The author recommends beginning with a minimum dose—one-fourth to one-half grain—and increasing to a grain or more as tolerance is established. This is especially recommended where an idiosyncrasy to mercury is present.

Influence of Neurin on Circulation.—The influence of neurin, a decomposition product of lecithin, obtained from brain, the yolk of egg and bile on circulation, has been studied by E. Formanek (Arch. internat. Phar. et Thér., vol. x, fasc. iii, iv). When injected into dogs, there is noticed a considerable rise in blood-pressure, and an unimportant acceleration of the pulse, which soon makes way for a considerable retardation. Only the first injection, however, is of importance, since the second may be without any effect. The retardation and rise in blood-pressure were also noticed after preliminary vagotomy, but disappeared rapidly when atropin was injected. After destruction of the entire spinal cord the pulse tension was much less, though still above normal. It follows that the increased blood-pressure is due to irritation of the peripheral vasoconstrictor nerves and the vasoconstrictor centers in the cord and medulla; the retardation, to irritation of the peripheral vagus endings.

Efficiency of Anthelmintics.—In his article on the value of the different remedies employed against intestinal worms, E. Sobotta (Ther. Monatsh., August, 1902) states that pelletierin tannate failed in six cases, despite the fact that it was given in sufficiently large doses to cause toxic symptoms. Extract of male fern in doses from seven to eight grams proved to be highly satisfactory if the intestines were evacuated before administering, and no intoxication ever occurred when it was followed by laxatives. It is not necessary to employ castor oil; other cathartics, such as the infusion of senna, are also available. Fasting for a few days before the cure is recommended.

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SATURDAY, OCTOBER 4, 1902.

THE CONDITION OF PRESIDENT ROOSEVELT.

THE news of the accident to President Roosevelt came as a shock to the country, as the national mind has grown pessimistic in regard to casualities occurring to our chief magistrates, and it was only after the lapse of several days—during which the program of the West was being carried out—that the anxiety was allayed. This was, however, rekindled and increased by the news that an abscess had formed in the leg, and that it had been necessary to perform an operation and to abandon the proposed continuation of the President's trip. From that time a general uneasiness has been felt, and though on all sides it has been regarded as a temporary matter, yet the known restlessness and activity of the patient and his natural repugnance to enforced restraint have been taken as an offset to the excellent physical condition with which his devotion to athletic pursuits has rewarded him.

The severe blow received in the trolley accident was on the crest of the tibia, about midway between the tuberosity and the malleoli, and was followed by the formation of a cyst between the skin and the periosteum. This, under the strain of incessant movement and from the absence of rest, increased until it finally became necessary to aspirate it, which was done on Tuesday, September 23, at St. Vincent's Hospital in Indianapolis. After the fluid was drawn off the patient's general condition improved for a few days, then the localized tenderness was again increased until Saturday evening, September, 27, when the wound gave every indication that the drainage was insufficient, and as the President's rising temperature corroborated this belief it was determined to make a free incision.

The operation was done on Sunday afternoon, an injection of cocaine being administered to allay the pain. The cut was carried through the cyst and through the periosteum, and the bone laid bare for several inches above and below the center of infection. The bone was found to be roughened and to a degree honeycombed, the probe here and there showing slight depressions. The surface of the bone was scraped, the wound dressed, with every facility for thorough drainage and all necessary antiseptic precautions, and as the temperature has since been normal, and all alarming symptoms have disappeared, no future complications are looked for. The President has two nurses, one from the army and one from the navy, to assist in moving him, as the only possible danger lies in the rather difficult task of keeping him quiet. Yet he is driven out daily; his appetite is good; like his temperature, the pulse and respiration are normal, and there seems every reason to expect a prompt recovery.

It is characteristic of the man that his only feeling during the operation was one of amusement at the amount of care taken in the antiseptic precautions preliminary to the operation itself. He remarked that a splendid head-line to a sensational newspaper report would be, "Washed at Last." Let us hope that there will soon be no necessity for newspaper bulletins of any sort, and that the wound and the incident will soon be reported closed.

"HAVE YOU ANY WOOL?"

OLD Mother Goose was a woman of parts, and though her sayings at times lacked the coherence and clearness of the utterances of the oracle of Delphi, yet there was withal an undercurrent of practical wisdom in her nonsensical couplets which leads us to think that her celebrated query to the "black sheep" was propounded in the late summer or in the early fall. For it is just at this time, somewhere between the appearance of the oysterical "R" of September and the full fruition of the brown October ale, that the summer cold ripens into the autumnal cough, and the seeds of influenza and protracted inflammatory troubles are sown in the mucous membranes by the too rapid cooling of the body when overheated by exertion.

In protecting themselves against this danger our English cousins are wiser than we, for apart from our sporting paraphernalia and our outing clothes we make but little use of flannel; and even in those it is the shirt major, and not the inside garment, that is of wool, its principal object, too, being rather to present a semirespectable appearance at the camp-fire or on the field than to provide a vehicle for the absorption of perspiration. This condition of affairs is due partially to the conservatism and the *vis inertia* of established habit, and is also partly the fault of the manufacturers, for up to within a few years the goods put on the market, even if they were all wool and a yard wide, have been unnecessarily thick, and so heavy as to be practically useless for the purpose for which they were intended. Not only were they clumsy and cumbersome, but they were so closely woven that they prevented the escape of the exudations, and their use caused an irritation of the skin and at times an intolerable itching. They also presented the effect of heat to the imagination.

All this has now been modified by art and improved methods of manufacture, until the hygienic underwear at present found in the shops is light in weight and loose in texture, and entirely different from the ordinary flannels of the past. It is, however, only natural that there should be a lingering idea in the minds of the laity that wool *is* hot, for the process of wrapping the body in blankets, which are non-conductors of heat, to confine the animal warmth and prevent the temperature from being lowered by admixture with the colder atmosphere, is as common as a winter night, and one, too, that does much to prevent us from dreading the grave as little as we fear our beds. The reverse of this is also true, for the same non-conducting medium that hinders the heat from escaping will also prevent it from entering, a familiar illustration of which is the action of the thrifty housewife in wrapping her ice in a blanket to keep it cold.

All this is a simple matter in itself, and it is only when we come to the question of the wisdom of swathing a body, heated to about the *same* degree of temperature as the surrounding air, in wool, in order to cool it off and to keep it cool, that the problem becomes a complicated one to the non-professional mind. That it will do it is unquestionable, and the key to the apparent paradox lies in the woollen fabric's bifold property of non-conductivity to heat and permeability to moisture at the flannel's outer surface, as was recently pointed out in a contemporary, the New Haven Times.

This evaporation disperses the heat and thus lowers the temperature—a principle which forms the basis of the "monkey" or East Indian water-cooler, and which is also taken advantage of by the soldier who keeps the cloth covering of his canteen wet on a hot day. So, as will be readily seen, a wet flannel shirt will dispose of the surplus heat and gradually cool the body.

Cotton, on the other hand, does not possess these qualities, and when this is used for underwear the bulk of the perspiration is held unabsorbed on the surface of the skin, while the little that is taken up by the garment is not evaporated, but remains as a wet layer that chills the body and leads to the catching of colds and consequent inflammatory action. The danger of this is naturally intensified by exposure to a draft of air and delay in removal of the damp clothing—a compromise being generally attempted by the putting on of an overcoat or wrap, and the taking of some alcoholic stimulant.

Of late years, however, linen has come into prominence, its advocates claiming that, when woven into what is known as "mesh," it exceeds all other materials, both in its power of absorption and its capacity for evaporation. It certainly raises the outer shirt from direct contact with the inner one, and this allows a current of air to circulate over the surface of the skin. This is undoubtedly hardened by the process, and gains an increased power of resistance to exposure, while it loses its susceptibility to the effects of extremes in temperature. It is now claimed, with apparent truth, that the ideal clothing for a life of strenuous activity is the combination of an undershirt of mesh linen with an outer one of the lightest and most porous wool.

Of course, this is all largely a matter of the seasons. In summer the air is so warm that there is little danger of "catching cold," and in winter the man who is used to outdoor exercise seldom works himself into anything more than a healthy glow. So that it is during the autumn that we must be on our guard, in the days of the insidious fall, when the rays of the sun are still strong, while the wind is keen and nipping—days that have been not inaptly described by some inglorious Milton of the Sierras as "the saddest days of all the trying year, when it's a little too warm for whiskey and a little too cold for beer."

RECENT WORK ON THE STOMACH.

Elsewhere in this issue is to be found a much condensed abstract of the leading articles on the stomach published in Europe in 1901. Laboratory methods of studying stomach-disease have awakened a great interest in this formerly neglected part of pathology, and there now exists a large corps of gastric specialists who are devoting their entire time to this branch of work. The use of the stomach-tube and of the prescribed meal enables the medical practitioner to form a more accurate conception of the condition of the stomach and of the effects of given food on the human economy than could ever be possible with ordinary animal experimentation; for the conditions of human alimentation, including mastication, taste and other factors, can never be duplicated in any subhuman animal available for research. Physiologists have thus begun to study digestion in human beings, and they will supplement the knowledge gained thereby through the study of dogs, rabbits and other animals.

It is an important demonstration that foods have two distinct and different influences on gastric secretion; namely, the peptogenic and the succagogic, for this opens up the prospect that we may so combine foods that we shall obtain just the amount of desired action of each kind, the problem of adult feeding in pathological conditions of the stomach becoming analogous to that of infants by modified milk.

That the functions of the stomach may in some measure be carried on by the pancreas, and the work of the pancreas partly assumed by other organs, indicates that the division of labor has not been such as to make the cells unable to do something beyond their routine work. And this would suggest that when one viscus is hopelessly disabled by disease we should direct our special attention to promoting the activity of the organs to which the impaired viscus is most closely related.

Reichmann's disease or gastrosuccorrhea, the condition in which secretion goes on even when not stimulated by the presence of food in the stomach, becomes of vastly greater interest when we think of an ulcer as its basis, and of the necessity of gastro-enterostomy for its relief. More and more are the surgeons entering the domain of stomach-treatment, for we find them locating and cutting out ulcers, reefing the stomach for dilatation, and now even performing gastro-enterostomy for continuous secretion. Perhaps they will next turn the stomach inside out in chronic gastritis and apply the cautery or curette to inflamed areas, as the rhinologist would treat a hypertrophied mucous membrane of the nasal cavity.

That lavage is more frequently resorted to by the general practitioner than by the stomach specialist, everybody knows; yet the specialist does not abhor it, but limits his lavage to those cases in which something definite is to be gained by removing what is in the stomach. The stomach normally does not need washing, and often digestion is more helped by leaving in a perverted secretion than by its removal. Certainly nothing can be gained by lavage in an ordinary case of hyperchlorhydria, for lavage removes the mucus, the natural protector of the mucus membrane, and exposes that membrane to all the irritating action of the highly acid gastric juice. And if it is true, as stated by different observers, that frequent lavage tends to produce glandular inflammation, overactivity or muscular weakness, then the procedure should hardly be resorted to as a routine practice. It can not be doubted, however, that there is no other method so good for cleaning out the stomach when excessive fermentation is going on, or when the mucus is so abundant as to interfere with digestion. Few who have noted the thinness of the layer of tissue separating the base of a recent ulcer from the peritoneal cavity would care to risk the introduction of a stomach-tube in hemorrhage from the stomach, unless the diagnosis of ulcer were decided against, or the ulcer were of long standing and probably protected by adhesions. With all this new interest and the new clinical methods, diagnosis and treatment in gastric difficulties appear to have a hopeful future.

INSURANCE AGAINST EPIDEMICS.

The cost of the smallpox hospitals in London is £16,000 per annum. In the absence of any serious outbreak of smallpox this seems a large sum. Its expenditure enables the London authorities to be in constant readiness for any emergency. They regard this sum "as the premium which London pays for the assurance that every outbreak of smallpox shall be promptly and effectually dealt with, and prevented from developing into an epidemic."

If London needs insurance against epidemics, so does New York; and protection against scarlet fever and diphtheria is just as necessary as measures for the control of smallpox. Until the principles of isolation and disinfection can be as efficiently applied in private as in hospital practice it will remain true, as Mayor Low recently declared, that "sanitary science demands the increasing treatment of infectious diseases in hospitals." But we must not be led blindly into a mere reduplication of the London hospital system. Our local needs and means may justify a departure in certain particulars from the methods which find approval elsewhere.

Not until 1889 did the notification of infectious diseases become compulsory in London. In the ten years following the percentage of admissions to notifications increased from an average of 33 per cent. to 74 per cent. for scarlet fever, 69 per cent. for diphtheria, 40 per cent. for enteric fever and 84 per cent. for typhus. This is an admirable record. In New York about 10 per cent. of the reported cases of infectious disease receive hospital treatment. Evidently we are neglecting "an element of safety." The question may well be raised, however, whether *gratuitous* hospital treatment, such as every person suffering from an infectious disease is entitled to in London, is either desired by or desirable for 80 per cent. of the cases occurring in New York. Not so very long ago the patient who accepted treatment in the poor-law hospitals of London consequently incurred the civil disabilities of the pauper. This stigma was removed by law in 1891, and since that time a constantly increasing number of London's infectious sick have been glad to resort to the excellent hospitals of the Metropolitan Asylums Board, where gratuitous treatment is provided. If we send all of our smallpox, scarlet-fever, diphtheria and even typhoid patients to public hospitals for free treatment we shall deprive the practising physicians of New York of a legitimate source of revenue, and the sick who are able to pay for medical treatment of the right to choose their own physicians.

New York needs more hospitals for the treatment of infectious diseases. The city should build and conduct those for the poor, and the supervision of the Department of Health is all that is necessary to insure the proper management of hospitals which shall be available for the well-to-do. Public appreciation of the benefits of hospital treatment of infectious diseases is steadily increasing. But there is no education whereby families able to pay can be reconciled to the isolation of their sick members in free public hospitals. For this class smallpox hospitals are needed as well as scarlet-fever hospitals, and we hope to see this want satisfied.

Conference on Tuberculosis.—The Conference of the International Central Committee has announced its program for the autumn meeting, which will be held in Berlin October 22 to 26 inclusive.

ECHOES AND NEWS.

NEW YORK.

Impure Air in Theaters.—President Lederle of the Board of Health has announced that his inspectors have inspected the 53 theaters in New York with a view of finding out those that are within the requirements of the Sanitary Code. Reports from 23 of the theaters showed them to be in a good condition; 15 lacked ventilation in toilets; four, ventilation in dressing-rooms; two, ventilation in cellars; three, toilet accommodations; 20 had defective plumbing; 11 had been complained of because of general uncleanliness, and one had a wet cellar. Notices ordering the owners to repair the defects had been sent to the owners and lessees.

Nurses Go Free.—District-Attorney Jerome appeared last week in the Court of General Sessions and moved for the dismissal of the indictments against Michael Carroll and John Foley, two nurses charged with the death of Herbert C. Wardman, a patient at the Manhattan State Hospital, who died there on March 5, 1901. An investigation resulted in the indictment of Carroll and Foley, charged with inflicting injuries on Wardman while he was in their care, and which subsequently resulted in his death. Mr. Jerome told the court that there was such a conflict of medical testimony that the men could not be convicted, and that a trial would be a useless expense to the county. The indictments were accordingly dismissed.

Medical Inspection of the City Schools.—The medical inspectors are complaining that under existing conditions it is impossible for them to do their work properly. The average inspector has four schools, which means that he has about 5,000 children to attend to. A general examination of all the schools is called for every day. In addition to this every child in each of the schools has to be examined, as it were, in detail once a week. That is to say, the eyes, hands, throat and head of the pupil have to be scrutinized. The inspector has frequently to examine 2,000 children in this way in two hours. In every case in which a child is sent home an exclusion card has to be made out, giving the name of the child, a diagnosis of the case, the date, and so on. These details are supposed to be attended to in the short time set apart for medical inspection. The present appropriation is not large enough. To do the work as the department wishes to have it done, at least twice the actual number of men are needed. It is a physical impossibility to examine 5,000 every day in a general way, and the same number individually once a week.

PHILADELPHIA.

Decrease in Typhoid Fever.—During the past week but 93 new cases have been reported, as compared with 125 for the previous week. The number of deaths was three less.

Legacies to Hospitals.—The will of David Simpson of Collingswood gives $5,000 each to the West Philadelphia Hospital for Women, to the Polyclinic, and to the Rush Hospital for Consumptives.

Masseuse Wins Suit.—A masseuse of this city recently brought suit against a man for money due her by reason of a contract with him to give his wife massage treatment in hope of reducing obesity. The defense claimed that instead of reducing the patient's stoutness massage increased the condition, and $1,000 damages was asked. The court decided in favor of the masseuse.

State Homeopathic Medical Society.—The 38th annual meeting of the Pennsylvania State Homeopathic Medical Society was held in this city September 23-25. A resolution urging the appointment of a member of the homeopathic school on the State Pharmaceutical Board was adopted. This has been customary, but the

Governor failed to make such appointment this year. Dr. W. C. Goodno of Philadelphia was elected President. Next year's meeting will be held in Scranton.

University of Pennsylvania.—The session of 1902-'03 has opened with several changes in the medical department, chief of which is the election of Dr. Charles H. Frazier to the position of dean. All clerical work is now in the hands of an assistant, this allowing the dean time to attend to professional duties both at the University and outside. Dr. Frazier is Professor of Clinical Surgery. Another important change is the assumption by Dr. George E. De Schweinitz of the chair of Ophthalmology made vacant by the death of Dr. Norris.

Eastern Penitentiary Investigation.—Among the charges against the officials now being investigated by the State Board of Charities is that of allowing a convict physician, a murderer and paranoiac, to have the run of the drug-store and to compound prescriptions. When the prison physician was on his vacation this doctor practically had charge of the medical department of the institution, a former prison physician being asked to visit the place if necessary. He was not called. According to reports these physicians admit the truth of these charges. If proven, the matter will probably be brought to the attention of the State Medical Board.

Coal-Famine and Mortality Rate.—The statement from New York that pneumonia and kindred diseases are increasing because of insufficient heating due to scarcity of coal, does not apply as yet to this city. That this will be the result later on is probable. In former years about 15,000 tons of coal have annually been distributed to the poor by the Board of City Trusts, and an equal amount from various funds. While the strike continues there will not be a ton to distribute, and suffering and death must be a result. A more hopeful view is that there will be a reduction of the spread of diseases which result from overheating of houses and lack of fresh air. The organized charities of the city have as yet taken no action regarding the matter.

Feeding in Typhoid Fever.—On the same occasion Dr. William E. Robertson advocated more liberal feeding during this disease. Give food the most nutritious and the least liable to injure the patient's bowels. This conserves his strength. Recrudescence and relapse are due to reinfection instead of feeding. Robertson's cases have all been treated at their homes, and good results have been obtained by feeding. The period of disability from the disease is materially shortened thereby. He gives raw eggs, broths, tea, coffee, chocolate, cereals, potatoes, oysters, etc. In the discussion Dr. H. A. Hare said that he favored more feeding in typhoid fever. Broths should not be given, as they are culture media. Soft eggs, starches, strained rice, etc., may be given. Digestive ferments should accompany them. The longer he practises medicine the more he is convinced that physicians are almost powerless in cases of hemorrhage during typhoid fever. It is almost wrong to bother the patient with internal drugs, as they do not reach the affected spot. One may be of service—Monsel's salt, made into hard pills and enclosed in two or three capsules.

Operation for Perforation in Typhoid Fever.—At the same meeting Dr. Robert G. Le Conte spoke of four points under this head: (1) Shock. Experience has shown that it is not advisable to wait for subsidence of shock. Operate immediately. (2) The incision. This had better be made directly over the most liable site of perforation—in the right semilunar line below the umbilicus. (3) Treatment of the lesion. When the perforation is not too large suture it, not wasting time to pare the edges of the ulcer. If too large to suture, available expedients are (a) plugging with omentum; (b) resection of the bowel; (c) artificial anus; (d) walling off with gauze. Le Conte prefers plugging with omentum or walling off with gauze in ordinary cases, using the other methods only in exceptional cases. (4) Toilet. The directly soiled intestine should be brought out and cleaned by gauze and flushing, the other portions only by sponging. Flushing the abdominal cavity when the soiled area is limited is dangerous; when soiling is general, flush. Eleven cases have been operated upon at the Pennsylvania Hospital. Of these, eight were transferred from the medical wards at time of perforation and one recovered. The other three were admitted after perforation and operated at once, all recovering.

Hemorrhage in Typhoid Fever.—At a meeting of the Philadelphia County Medical Society, September 24, Dr. R. G. Curtin read a paper on the above subject, saying that this complication occurred in from three and one-half to eight per cent. of cases. He has never seen it in a child under six years. A point emphasized was that very often with a marked fall and subsequent rise of temperature some blood is passed by the patient. About 24 hours later more tarry blood is passed, supposed to be a second hemorrhage, when in reality it is blood retained in the bowel for that length of time. Some conditions that form a serious combination with hemorrhage are renal disease, marked organic heart-disease, hemophilia, tympanites and obstinate diarrhea and vomiting. Since hydrotherapy has been employed hemorrhage has increased, as also the mortality in hemorrhagic cases. This treatment drives blood to the interior, hence it is well to avoid it when there is a tendency to hemorrhage in any case. It should be used with great care during the third week of the disease. Treatment of hemorrhage consists in the use of ergot hypodermically and by the mouth, turpentine internally and externally (the latter better when sprinkled on flannel than in the form of stupes), opium, and oil of erigeron, cold to the abdomen. The last should be applied continuously instead of intermittently.

CHICAGO.

Election of Dr. Woodruff.—Dr. Thomas A. Woodruff has been elected Professor of Ophthalmology in the Chicago Eye, Ear, Nose and Throat College.

Vote of Thanks.—At the conclusion of the lantern demonstration a rising vote of thanks was tendered to Mr. Ball for his instructive, entertaining and scientific discourse.

Property Transferred to University.—The College of Physicians and Surgeons has conveyed to the University of Illinois the old West Division High School property at Ogden Avenue and Congress Street, which it acquired from the city last year. The consideration named in the transfer, the same as in the deed from the city, was $186,000.

Notable Decrease in the Prevalence of Typhoid Fever.—The mortality of typhoid fever has fallen from 10.5 per cent. of the total mortality during the first week in September to 7.8 per cent. last week. The typhoid deaths for the three weeks of the month have been 55, 43 and 38 respectively, and although there were 18 more cases in the County Hospital at the close of the week, there is every reason to believe that if the precautions so generally enforced during the past six weeks be continued until cold weather sets in there will be nothing more than the usual seasonal increase of the disease during the remainder of the fall.

Commencement Exercises of the Illinois Medical School.—The Illinois Medical College held its eighth commencement on the afternoon of September 25. Dr. Frank Gunsaulus officiated, and the doctorate address was delivered by John Barton Payne. The announcement of the graduating class was made by Professor B. Brindley Eads, Dean of the College, and the degrees were conferred by the President, Dr. H. H.

Brown. A graduating class of 34 received diplomas. The valedictory was delivered by Dr. Arthur B. Cook. The annual banquet was given in the evening at the Auditorium Hotel. Dr. William F. Waugh acted as toast-master.

Visit of a Distinguished English Surgeon.—Mr. Charles B. Ball, Professor of Surgery in Trinity Medical College, University of Dublin, recently delivered the Lane Lectures at the Cooper Medical College of San Francisco, Cal. September 25 he arrived at Chicago, and in the evening by invitation showed numerous beautiful lantern-slides of diseases of the rectum. Stereoscopic photographs were taken during his surgical operations in Dublin by his son, and then subsequently rephotographed and colored with anilin dyes to bring out the salient features of each disease. There were projected on the screen beautiful slides of ulcer of the rectum, granulomata of the rectum, syphilitic disease of the rectum, syphilitic stricture, partial and complete prolapse of the rectum, cancer of the rectum, internal and external hemorrhoids, adenoma of the rectum, congenital sacrococcygeal tumor in a child, colloid cancer of the rectum, tubular stricture of the rectum, etc. He said the majority of cases of hemorrhoids were best treated and cured by the ligature, although the ligature method was regarded by some as ancient or primeval. However, he still clung to and advocated this method of treatment, as modified by himself, and had secured satisfactory results. The Whitehead operation had led to a great deal of trouble. In some cases a certain amount of incontinence, and in others stricture, had followed it. He had abandoned the Whitehead operation.

CANADA.

Canadian Medical Association.—At Montreal, September 16, 17 and 18, was held the 35th annual meeting of the Canadian Medical Association, which was by far the largest meeting ever held in its history. There were 325 physicians present from all provinces of the Dominion, and a dozen or more from the United States as guests. The meeting was held in the Medical Buildings of McGill University, and was conducted under the presidency of Dr. Francis J. Shepherd of Montreal. Immediately after the meeting was opened on the morning of the 16th, Professor Adami moved a resolution of regret at the recent death of the eminent German pathologist, Professor Virchow. The resolution was at the same time an appreciation of the great life-work of the leader among German pathologists. It was unanimously adopted. The meeting then divided into sections, Dr. Alexander McPhedran of Toronto presiding at the Medical Section, while Dr. O. M. Jones of Victoria, B. C., acted in a similar capacity in the Surgical Section.

Splenic Anemia.—Dr. H. A. Lafleur of Montreal contributed the first paper in the Medical Section. It embodied notes on a case of splenic anemia, the patient being also presented. A tumor extended from the lower ribs on the left side to the crest of the ilium, and there was a complete absence of mobility. In discussing this case, Dr. Osler thought it was a case in which the diagnosis was more surgical than medical.

Sanatorium Treatment of Tuberculosis.—Dr. J. H. Elliott, Superintendent of the Gravenhurst Sanatorium for Consumptives, contributed a paper on some further results in the treatment of tuberculosis. His report dealt with 555 cases treated at that institution during the past five years, an experience which has shown that almost all of the patients discharged "apparently cured" have remained perfectly well, while of those with "disease arrested," many have progressed to good health at home by following the rules of life learned at the sanatorium. Dr. Osler discussed this paper and congratulated Dr. Elliott on the results he has obtained. Dr. Osler mentioned two important points which should be kept well in mind: First, early diagnosis; second, getting the patient as soon as possible under proper professional control. Dr. McPhedran also discussed the paper, emphasizing how to get patients to care for themselves at their homes. He also stated that he believed that the neighborhoods of sanatoriums are areas where tuberculosis is always diminishing. Following this was a paper by Dr. John Hunter of Toronto on pleurisy as associated with tuberculosis. The author described the manner in which the bacilli reach the visceral and parietal pleuræ, and further discussed diagnosis, prognosis and treatment.

Clinical Notes on Blood-Pressure.—Dr. A. E. Orr of Montreal contributed some clinical notes on blood-pressure in diseased conditions, investigations of which had been conducted on 400 patients in the Royal Victoria Hospital, Montreal. The normal pressure was found to range from 110 to 120. Then Dr. W. S. Morrow of Montreal gave a practical demonstration on the blackboard, and presented a living subject, illustrating the technic of recording the venous pulse.

A New Sign of Intestinal Paralysis.—In the Surgical Section special interest was shown in a symptom, not hitherto described, due to paralysis of the bowel in peritonitis, recorded by Dr. George A. Peters of Toronto. He has observed that, where the gurgling sounds due to the passage of gas and liquid in the bowels are absent from paralysis, the heart-sounds are invariably very plainly present over the whole abdomen. In intense cases, particularly in children, both inspiratory and expiratory breath-sounds may be heard.

Filariasis.—Dr. Alexander Primrose of Toronto reported a case of filariasis in a man who came from the West Indies with lymph scrotum, which was cured by operation. A large portion of the scrotum was removed, and thereafter the embryos entirely disappeared from the blood, and the inference was that the parent producing them had been removed by the operation. The parent worm was carefully studied by Dr. J. H. Elliott of Gravenhurst Sanatorium, and late of the Malaria Expedition in Algeria from the Liverpool School of Tropical Medicine; and a report of his investigations, along with drawings of the worm, formed part of the paper as contributed by Dr. Primrose.

Diseases of the Biliary Organs.—Nearly the whole of the morning session of the second day was devoted to a discussion on the disease of the gall-bladder and bile-ducts, which was led by Dr. McPhedran of Toronto, in a paper on medical diagnosis. According to him jaundice and the recurrence of an attack are the most characteristic symptoms of gall-stones. Dr. A. D. Blackader of Montreal spoke on the treatment of gall-bladder affections. The surgical diagnosis was introduced by Dr. James Bell of Montreal, who was followed by Dr. J. F. W. Ross of Toronto, in a paper on the surgical treatment. Dr. Ross expressed a lack of faith in the so-called medical treatment of gall-stones. He advocated drainage through Morrison's pouch, and laid great stress on the free use of gauze packing to prevent leakage into the peritoneal cavity. In gangrene and empyema of the gall-bladder he does not advise removal of the organ, but prefers opening, flushing and draining. Following in the discussion came Dr. George E. Armstrong of Montreal, who does not advise removal of the gall-bladder for stone in the cystic duct.

The importance of an early operation on the gall-bladder was the subject of a paper contributed by Dr. Dudley Allen of Cleveland, O., and as accurate diagnosis is often impossible, he advises exploratory incision, which he had often performed with gratifying results.

Foreign Bodies in the Appendix.—The next paper was on foreign bodies in the vermiform appendix. It was presented by Dr. James Bell of Montreal. In his experience the foreign bodies met with have been in two cases pins, in two cases seeds, in one case wood fiber, in one case gall-stones, and in another case a fish-bone.

Consulting Staff in Hospitals for the Insane.—Dr. Stuart Paton of Baltimore, Md., advocated wards in asylums for the insane for the proper treatment of acute cases. He considered also that every asylum for the insane should have a consulting staff of practitioners, as other hospitals have.

The Pathologic Prostate.—Dr. Alexander Hugh Ferguson of Chicago read a paper on the pathologic prostate and its removal through the perineum. In performing this operation Dr. Ferguson uses a prostatic depressor introduced into the urethra in such a manner as to press the prostate down into the perineum. The finger of the left hand is passed into the rectum as a guide, and then he makes one bold incision through the perineum down through the prostatic capsule. Following this paper Dr. George E. Armstrong read a paper on the surgical treatment of enlarged prostate, exhibiting a specially constructed suprapubic vesical speculum, devised by himself, with a lateral opening which allows the prostate alone to come well into view in the speculum. He reported seven cases successfully operated upon.

Chauvinism in Medicine.—At a general session held in the evening of the second day Dr. William Osler delivered the Address in Medicine, which was a scholarly and able effort. Its title was "Chauvinism in Medicine," of which there were four varieties; namely, national, provincial, parochial and individual. He strongly advocated Dominion Registration as advanced by Dr. Roddick, and hoped that no one province would offset the good work Dr. Roddick had already performed in this direction. He advised the profession to beware of the drummer of the drug-house, and spoke of charity in the profession: "If you cannot speak well of your brother, keep silence."

Election of Officers.—President, Dr. W. H. Moorhouse of London, Ont.; Treasurer, Dr. H. B. Small of Ottawa; General Secretary, Dr. George Elliott of Toronto. London, Ont., was selected as the next place of meeting.

GENERAL.

A Medical Family.—Four daughters of one Iowa family are practising physicians. Drs. Jennie S., Emma L., and Jessie A. Braunwarth are established in Muscatine, Ia. Dr. Anna M. Braunwarth is associated with Dr. Henry T. Byford of Chicago.

Quarantine Methods in the Philippines.—Determined warfare by the quarantine officer against rats has resulted in the total extermination of bubonic plague in Manila. Despite the fact that the plague has been raging in Hongkong, Amoy and other Chinese ports, there is little trace of it in the Philippines. In his official report Surgeon Perry says: "On December 17, it having previously been demonstrated that the rats in Manila were affected with the plague to the extent of from one and a half to two per cent., and in order to eliminate this factor in spreading the disease to island ports, and to assist the Board of Health in the crusade for the extermination of these animals, I ordered that all vessels sailing from Manila to the United States or island ports should be disinfected with sulphur in order to destroy the rats on board. This disinfection was also practised on the Hongkong boats for the purpose of adding further protection to Manila."

Serum Treatment of Scarlatina.—The conference of German doctors which met last week at Carlsbad has announced the discovery of a new cure for scarlet fever. Dr. Moser, the assistant physician at St. Ann's Hospital for Children at Vienna, is the discoverer of the new serum. During the last two years he has tried it on 400 patients. The mortality has decreased to between eight and nine per cent. The rate at the other hospitals is double this. The conference has been informed that the Government will vote a considerable sum of money in order that the serum may be made in large quantities and distributed to all the children's hospitals in Vienna.

Obituary.—Dr. Edward Miller Cameron died last week at his residence, 22 West Forty-seventh St., New York, aged seventy-three years. Dr. Cameron was graduated from the College of Physicians and Surgeons of New York in 1853. He was a member of the New York Medical Association and of the Academy of Medicine, and Consulting Physician of Trinity Hospital. He was also a member of the New York Athletic Club.

CORRESPONDENCE.

A NEW METHOD OF VACCINATING.

To the Editor of the Medical News:

Dear Sir—Acting on the principle that when we learn something new it should be communicated to be shared as common property among the profession, I send you the following description of the technic of vaccination.

Such a simple operation as that of vaccination admits of endless variations. The process to be described is recommended by its simplicity, asepticism, efficiency and cheapness. The only instrument required is a fairly stout needle, sterilized by passing it through the flame of a spirit-lamp, or, if that be not at hand, through the flame of a gas-jet. In the latter case the carbon which is deposited should not be wiped off, as it is aseptic, and its removal might entail sepsis. After a needle has been used it should be destroyed. After washing of the selected part with soap and water it should be washed off with sterilized water that has been allowed to cool, and then rubbed briskly with a piece of aseptic surgical lint until the dilated capillaries give a ruddy glow to the skin. No antiseptics are to be used. The operation is commenced by directing the patient to blow some of the lymph out of the capillary tube on to the part selected and prepared. Through (most important) the drop of lymph thus deposited the skin is scarified by rapid criss-cross movements of the needle-point. The scarification should not result in more than the slightest capillary oozing.

Advantages claimed for this method are: Asepticism—for each operation a new and freshly sterilized needle; relief from the necessity of carrying around "points" and scarifiers, and of their tedious sterilization; the fact that the blowing out of the lymph by the patient himself can result in nothing worse than auto-inoculation, and that this mode appeals to the æsthetic sense; that by stroking the skin *through* the drop of lymph every stroke is more effective, in that each breach of continuity in the skin is inoculated before resulting capillary oozing occurs, and that each stroke prepares the site for and deposits the lymph simultaneously. In the old method, where scarification preceded inoculation, the resulting hemorrhage antagonized successful inoculation in two ways: (a) By blood-clot, if the operator was slow; (b) by lavage, the hemorrhage resulting from the scarification washing away the lymph before the latter could be deposited.

This method of vaccination is not original.

J. R. CLEMENS, M.D.

St. Louis, September 22, 1902.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

IMPLANTATION OF THE HUMAN OVUM IN THE UTERUS—A NEW OPERATION FOR THE REMOVAL OF TUBERCULOUS GLANDS FROM THE NECK — HEMORRHAGE INTO THE ADRENAL BODIES—SEASICKNESS—OBSERVATIONS ON THE HEARTS OF YOUNG MAMMALS.

THE proceedings of the various German scientific and medical societies have their usual merit and widespread interest. Among a surfeit of valuable matter the following selection has been made as most worthy of the attention of our readers.

HENGGE, at the Greifswalder medizinischer Verein, June 7, 1902, read a paper on the implantation of the human ovum within the uterus, bringing out the following points: He discussed and demonstrated microscopical preparations which showed the human ovum one week after impregnation. The egg was in the mucous membrane of the uterus, firmly imbedded, much after the manner demonstrated by Spee for the same condition in guinea-pigs, and again by Peters for the human being. The ovum showed a thick envelope composed of ectoderm and trophoblast, in which the earliest signs of development of the chorionic villi and of the intervillous spaces may be seen. About the ovum the early elements of a formation of the decidua are also in evidence. This ovum was accidentally discovered during a microscopical examination of the products of a curetting.

STEGMANN, at the Verein Freiburger Aerzte, May 30, 1902, read a paper on and gave demonstrations of a new operation for the removal of tuberculous glands of the neck as follows: Tuberculosis of the cervical lymphatic glands is usually the first localization of this disease within the human economy, because these glands are commonly the first wall of defense against the invasion of tubercle bacilli, which reach them from the inspired air in the mouth and pharynx, whence they are taken to the glands themselves by the small lymphatic vessels. Stegmann has frequently noted that on the same side as the glands themselves there often appears tuberculosis of the apex of the lung. For this reason it is advisable to remove affected glands at the earliest possible moment in order to prevent a downward spread of the disease into the lung. Operation upon the cervical lymphatic glands is accepted by the public and recommended by the medical practitioner, as a rule, only after a great number of more or less scattered glands within this region have become affected, or when this condition arises as a recurrence from previous disease of a few glands. The operation which he recommends has been practised by him for a number of years with the best cosmetic and therapeutic results, and at a time when such authorities as Dower recommend it. It consists in the formation of a skin-flap through which it is possible to lay bare the whole region of the neck. The skin-incision begins a little below the border of the lower jaw, quite close to the apex of the mastoid process, passes in a gradual curve backward to the anterior border of the trapezius muscle, and finally ends just above the clavicle. This skin-flap is then freed from all its attachments down to the base, the superficial glands removed, and in the presence of disease in the deeper glands the sternocleidomastoid muscle is divided temporarily through its middle, and the internal jugular vein, which it so frequently walls in on the outer side, is dissected free from the diseased glands. By this incision the fossa above the clavicle is entirely approachable. For the cleaning out of the space below the jaw care must be taken not to bring about paralysis of the mouth by dividing the nerves of this region, which may readily happen when the external maxillary artery and vein are divided. Near the natural point for this division there is the union between the first cervical nerve and one or more branches of the facial nerve, especially the marginal branch. In one case where this accident happened with the author he divided this anastomosis on the opposite side and thoroughly corrected the cosmetic error. He thinks, moreover, that after a number of years such an error in the position of the mouth would probably correct itself anyway. He then presented to the society a patient on whom the operation had been done with the very highest result, cosmetic and therapeutic.

SIMONDS, at the Biologische Abtheilung des ärztlichen Vereins in Hamburg, June 17, 1902, read a paper on hemorrhage into the adrenal bodies, from which the following points are briefly taken: He bases his observation on 12 patients of his own, and on various references to the same disease in medical literature. Small ecchymoses into the adrenal bodies are very common indeed in the various infectious diseases, and are therefore in the circumstances to be considered properly toxic in origin. Hemorrhagic infarcts into both adrenal bodies often occur with symptoms analogous to peritonitis, and usually are followed by death, but these symptoms may totally fail. Hemorrhages into these organs may result in the formation of hematomata of sufficient size and number to demand operative interference. Such hemorrhages usually occur in the following conditions: Traumatism, especially in the newborn; hemorrhagic diathesis; thrombosis of the veins which drain the glands about the bodies, and embolism of the capillaries by bacteria. The last two named are by all experience the most common causes. The thromboses may invade the main trunk or the chief branches of the veins, and on one or both sides. They should be regarded chiefly as marantic in origin, and are most common in individuals suffering from chronic disease. They are favored by the peculiar arrangement of the veins from these organs. A primary thrombosis in this region has not yet been described. Emboli caused by bacteria, and resulting in bleeding, have been found in cases which showed no signs of septic infection. For this reason when such cases occur it will be advisable to examine the organs directly for bacteria. Unilateral bleeding may by resorption of the blood be followed by restoration of function.,

L. FISCHL, at the Verein deutscher Aerzte in Prag, February 21, 1902, discussed the time-honored subject of seasickness, stating that he had made observations as to the possible cause of the affection in upwards of 300 cases, which even included several animals. As a therapeutic measure for preventing the condition, he found morphine by injection or the administration of bromides effectual. From the fact that in seasickness the vessels of the retina have been found in a state of contraction, he tried putting the patient in a position with the head low, then bandaging the extremities with elastic bandages. But these procedures had unfavorable results in severe cases. He considered hard, dry food the proper diet.

G. SOMMER, at the Physikalische medicinische Gesellschaft zu Würzburg, June 20, 1902, read notes on the following observations during the experiments on the hearts of young animals: When very young, chiefly new-born, cats, rabbits and dogs were killed under chloroform, and the chest being opened to the air, the heart again began to beat after a short time. If the great vessels were tied off and the heart removed and thus suspended in a 15 or 20 c.c. mixture of seven-tenths of one per cent. sodium chlorid, to which one or two cubic centimeters of peroxid of hydrogen had been added, and kept at the temperature of an ordinary living room, the movements of the heart continued for many hours, in some cases for 31 hours, until they finally disappeared entirely. These experiments showed that without blood streaming through the heart or great vessels from the heart, the young organ will continue to beat for a long time in a medium containing oxygen. In agreement with the statement of most observers in literature, he has found that first the left ventricle, then the right ventricle, followed in order by the right and left auricles and the vena cava superior, passed into action. When the pericardium is stripped off the heart, this organ springs forward as if from a constraining membrane, and the order is reversed and the action of the left ventricle appears to be the close of the cardiac cycle.

BYWAYS OF MEDICAL LITERATURE.—IX.

PLANTS AND INVALIDS.

One of the English popular weeklies furnished in a recent issue some valuable hints as to the plants whose presence in the sick-room is liable to affect invalids unfavorably. That the progress of their patients may be thus influenced it will be very useful for physicians to bear in mind. So little serves to affect certain sensitive nervous organizations that the unconscious retention of an obnoxious plant may mean all the difference between comparative ease and trying, wearisome discomfort. Some of the plants for which people may have susceptibilities are utterly unsuspected of any such influence. Hence the necessity for special care and watchfulness in the matter.

The majority of people think that the tulip has no fragrance, and this is true of a great number of the variegated kinds. The old single-colored varieties, however, particularly those of a deep crimson hue, have a powerful odor which is dangerous when inhaled. This odor is of saffron flavor, and affects many people in a very peculiar manner. If breathed deeply it has the effect of producing light-headedness, which continues for some time, causing the sufferer at times even to do and say all manner of remarkable and ridiculous things. Its influence often lasts for an hour or two, and is followed by deep depression. Another common flower whose odor has evil properties is the poppy. This is doubtless due to the quantity of opium which the blossom contains. Many individuals, especially young ladies of high-strung temperament, complain of the drowsy sensation which comes over them after walking through a field of these flowers. Afterwards such individuals may suffer from violent headaches and a disinclination to exercise. In Asia Minor, where the poppy is grown in vast quantities for the purpose of extracting the drug, tourists are frequently incapacitated for many hours after inspecting a poppy plantation, and two cases of death last year among English tourists are said to have been traced to this cause.

All flowers grown from bulbs are unpleasant in rooms where there are invalids. Although bunches of flowers are customarily taken as presents to patients, such blooms as hyacinths, lilies-of-the-valley, tuberoses, and even daffodils and narcissus, should be carefully kept out of the sick-room. The perfume of these flowers is likely to be especially irritant to many more people than is ordinarily imagined. Something of this effect may be due to imagination or to autosuggestion. Often the patients themselves are utterly unconscious of such evil influence, and it is only when exclusion of the flowers from the sick-room is followed by absence of certain hitherto annoying symptoms that the rôle played by the perfume becomes clear.

MEDICAL APHORISMS.

Perhaps the medical editor's appeal to "boil it down" is at least getting into one ear of his contributors without getting out at the other. At any rate, physicians are beginning to express some of their thoughts on medical practice and ethics, and even—heaven be praised!—their advice to their juniors, in short, aphoristic sentences, some of which are almost worthy of a place beside the concentrated sayings of the wise men of Greece. The aphorisms by Dr. Rockwell of Worcester, Mass., which appeared originally in American Medicine, having been copied by the London Practitioner, are now finding their way rather extensively into the medical journals of this country. Perhaps, like the California wine that is said to come back to us from France with French labels, they are improved by the twice-taken trip across the Atlantic, but this we may be allowed to doubt. Some of the aphorisms are certainly well done. For instance, these:

"Find out who 'runs' the family and then you 'run' her." This discovery will prove of great value. "The most important thing in therapeutics is the knowledge of what not to do." "The most dangerous member of society is the doctor who never makes a mistake." "Possess yourself of an irresistible, indestructible optimism. It is the keystone of the arch of success." "Don't tell your neurasthenic there is nothing the matter with him. It is not the truth." "Never give up a patient."

Dr. Rockwell evidently does not agree with the popular notion that a physician can only be successful if he applies himself exclusively to his profession, for one of his most striking aphorisms is: "He can not obtain the highest professional success who knows only medicine." Since so many physicians have succeeded in doing such things as to write successful novels, apply themselves to science with distinction, write occasional historic sketches, and do magazine articles very creditably, the old idea of a doctor always over his cases is going out. There are not wanting those who, like Dr. Rockwell, now insist that to do medicine well a doctor must obtain breadth of view by doing something else very well as a sort of a recreation of mind.

Another notable set of medical aphorisms appeared recently in the von Leyden Festschrift, to which we called attention some time ago. These are contributed by Dr. Buttersack of Berlin, a member of the staff of the German Army, and some of them are worthy of a line or two in the commonplace-book of every physician. For instance: "Faith makes us happy, but the will makes us healthy." "Not knowledge, but self-discipline raises men to a higher plane of existence." "Science is sacred. It takes only such offerings as come from a pure heart." Not only with the brain, but also with the heart must a physician strive to reach the heights of his profession. Some of the aphorisms are of more practical character: "The rifle does not make the marksman, nor the laboratory the investigator." "The natural scientist and the physician must first of all protect themselves against autosuggestion." "Even the universal specialist is far from being the true physician."

KEATS AND KIPLING, MEDICINE AND POETRY.

In the August number of Scribner's Magazine the opening story, by Rudyard Kipling, is of special interest to physicians and those engaged in the handling of drugs generally, because of its subject. The hero of the tale, a young drug-clerk, is a victim of tuberculosis, and occasionally spits blood of the bright arterial hue that by the novelist at least is taken to mean inevitable death. He is in love with a young woman named Fanny Brand, who possesses many of the physical attributes that tradition ascribes to Fanny Brawn, the beloved of the poet Keats. During a dream-like state brought on by a decoction prepared by a friend, the drug-clerk is supposed to write poetry that closely resembles some of the effusions which Keats poured forth to his lady-love. As the story is by Kipling, it is easy to understand that the subject is well worked up, and the symbolism introduced by the matter-of-fact account of the wireless telegraphic experiment in the room back of the drug-store helps to make the tale an impressive artistic whole.

At the end one is inclined to wonder whether Mr. Kipling himself really believes in the doctrine he would seem to inculcate, that poetry is only the result of a definite set of emotions under definite circumstances, and is not dependent on the genius of the poet for its expression. Perhaps the most interesting feature of the story for many physicians will be the fact, too little known, that the poet Keats was a medical student and spent his last years in England in a London hospital. Dr. Benjamin Ward Richardson, in an article in the Asclepiad, told the sad story of the young poet-physician and his unfortunate love-affair. The article has been incorporated in the volumes called "Disciples of Æsculapius," published recently by Dr. Richardson's daughter. It has always seemed to the present writer that to anyone attentively reading Keats's letters as edited by Houghton there would inevitably come the conclusion that the medical student Keats must have lived rather a wild life. There is more than one hint that he felt that he was paying for this irregularity of life by his physical suffering and the early death that he foresaw. There is even the faint suspicion that there was some actual physical ailment, the recurrent symptoms of which kept tugging away at his conscience. Poor Keats! He was not twenty when he went through the life-experience he bewails, and with his passionate poetic nature there may have been much that was unethical, but surely little that was very blameworthy. Perhaps the weakest part of the substratum of Mr. Kipling's story is the fact that the physical being of Fanny Brawn must have had very little to do with inspiring Keats's ardent verses. It was with a poetical, idealized Fanny that Keats was in love, and that rather matter-of-fact young person, the real Fanny, seems never to have appreciated the depth of the sentiment which she aroused in the young poet's heart.

PECULIAR DERIVATION OF FAMILIAR EXPRESSIONS.

Any physician who has had among his patients mild and gentle hatters, with no marked tendencies to mental disequilibration or undue irascibility, has been inclined to wonder what could possibly have been the original meaning and the special derivation of the expression "as mad as a hatter." In an article in the New Liberal Review, of London, for September, Mr. J. Churton Collins, a well-known English literary man, supplies data for the desired explanation. Originally the expression seems to have been "mad as an adder." A later form of it probably was "mad as a natter." The old English verb "to natter" was about equivalent to our expressive modern "to nag." A "natter" was a querulous person, always in irritable mood, and liable to explosive periods whenever there was any additional annoyance, however slight. The transformation of the expression into "mad as a hatter" was easy, and the mechanism of it can be understood better if we bear in mind the English tendency to drop the aspirate in such words as hatter when the form of the article before them became "an" instead of "a." Mr. Collins has found not a few proverbial expressions that have become modified in a similar way in the course of time. For instance, the puzzling expression, "He could not tell a hawk from a handsaw" loses its character of a riddle when we find that handsaw was originally "hernshaw," an old English term for heron.

THE GROUSE-DISEASE IN SCOTLAND.

During certain seasons the grouse on the moors in Scotland are attacked by a disease that carries them off in large numbers and makes the next autumn shooting very disappointing. As grouse-shooting is an indispensable function of English society life, the grouse-disease has attracted much more general attention than would otherwise have been the case. The study of its epidemicity and distribution has illustrated a number of biological principles in a striking way. For a long time the disease was thought to be air-borne, but the theory was given up because certain parts of the shooting district were always spared. Then it was thought to be due to something in the water, for the birds dead of the disease were found near the watercourses, but it was soon realized that in their illness the birds probably craved water. Prof. Klein, the English bacteriologist, examined the blood of birds dead from the disease, and found a bacterium that seemed to be the specific cause. The disease, however, was not conveyed by the digestive tract, since the feeding of healthy birds with contaminated material failed to give it to them.

Recently a new theory of origin has been suggested somewhat analogous to the mosquito theory of malaria. In the September number of the Fortnightly Review Mr. G. Teasdale-Buckell attributes the spread of the disease to midges, insect parasites that, after feeding on the bodies of grouse dead from the disease, find a new host in previously healthy birds. It has been noted that in years when the grouse-disease is severe the young birds have scanty covering for the legs. The absence of feathers is supposed to provide favorable opportunities for the attacks of the midges. Thus even for the birds of the air the development of nosology departs from the idea of infection through such elements as air or water, and finds the distributing factor to be a living agent.

A very curious feature of the spread of the disease is that it is mainly effected by the presence of weakling and ailing birds. Some time ago it was resolved to foster the increase of the Scotch grouse by getting rid of certain bird-enemies that preyed on them. A crusade was undertaken and after a time the grouse-enemies were so reduced in number as to be practically eradicated. Instead of an increase of the grouse, during the following season they were fewer than ever. It would seem that the strong and healthy grouse, capable of resisting disease successfully, were also able to escape their enemies. Delicate birds, however, and those suffering from contagious disease of any kind soon fell victims to the birds of prey. In this way the distribution of infectious disease over a wide area was prevented, since very few occasions for the spread of contagion were allowed. This conservative element of the struggle for life had been entirely missed by the would-be benefactors of the grouse, who thought in ridding them of their enemies to benefit the race. One is tempted to wonder how many of the delightful theories for the improvement of the human race might be wrecked in practical application by finding that they interfered with great conservative factors which have been unwittingly at work for true development.

BIOLOGICAL MYSTERIES OF PLANTS.

There was a time when botany was studied exclusively as a branch of medicine. Now physicians are likely to know little of it, and thus to miss the pleasures of an extremely interesting branch of science with many relations to medicine. Though the plants form the lowest order of living things, they contain most of the mystery that always is found in the presence of life, and the very realization of their comparatively simple organization, yet complex physiology and obscure chemism, gives a proper sense of diffidence in approaching the problems of higher life and its mysteries.

In the September number of Current Literature one phase of the still insoluble problems of plant-life is brought out very forcibly. One of the most marvelous mysteries and as yet unexplained phenomena connected with plant-life is the power of producing medicinal and poisonous secretions from the earth and air in which the plants grow. The mind stands absolutely benumbed before the fact that, of a series of plants growing in the same soil, supplied with the same water, surrounded with the same air, performing the functions of their life under identical conditions, this shall minister food for man's natural wants, that provide him medicine for his abnormal state, another be able to afford him unspeakable pleasure with its delicious perfume, another disgust him with its fetid odor, and still another deprive him of life if he tastes its juices. Indeed, vegetable biology has before it one of the most perplexing questions of the universe, when it is asked why wheat produces "the staff of life," cinchona its valuable quinine, stephanotis its rich perfume, skunk-cabbage its stench and nux vomica its deadly strychnine. Human experience has empirically tabulated many of the results of this mysterious function of plant-life, and the useful, the noxious and the innocuous lists are growing every day.

VIRCHOW AND EVOLUTION.

Because of his wide knowledge of biological science, from the minutiæ of cytology to the important problems of anthropology, very few modern scientists were better situated than Virchow to judge of the value of evolution as a working hypothesis. Curiously enough, in the midst of the evolutionary movement he never looked on it very favorably. Students who remember his deprecatory references to it in his lectures will have gathered that he was impatient at the vogue of the theory. He seemed to resent the acceptance of a doctrine for which there was so little definite proof and the conclusions of which were so much wider than any premises that could be formulated with assurance. Virchow always insisted that on cytology and the investigations of the possibilities of modification in cells must ultimately depend the acceptance or rejection of evolution.

Virchow insisted that patient observation in this matter, and not theories, however apparently satisfactory or brilliant, must prove the ultimate criterion of truth and the touchstone of definite advance. His position in this matter is very well brought out by Prof. Franz Boas, who occupies the chair of anthropology at Columbia University, in an article on Virchow as an anthropologist, in Science for September 19. Virchow's opinions have always proven such safe beacon-lights in medicine that his attitude towards evolution, and the reasons therefor may well be accepted as a precious legacy, not without its lesson of guidance for other subjects besides that which it immediately concerns.

Virchow demands that researches on the mutability of cells and groups of cells must be carried out, and he declines to speculate on the origin of species until through researches on tissues a sound foundation has been laid. Sometimes it would seem as though Virchow doubted the scientific value of the theory of evolution. We do not think this was the case. He merely emphasized again and again the methodological point of view, that the understanding of the forms of the body must be based on a knowledge of the forms, mutual relations and functions of the cells, and that therefore the question of mutability must be settled by researches on these lines. Furthermore, his position rests on the general scientific principle that it is dangerous to classify data that are imperfectly known under the point of view of general theories, and that the sound progress of science requires of us to be clear at every moment as to what elements in the system of science are hypothetical and what are the limits of that knowledge which is obtained by exact observation. To this principle Virchow adhered steadfastly and rigidly; so much so that many an impetuous students has felt his quiet and cautious criticism as an obstacle to progress. On this account he has suffered many hostile attacks, until generally the progress of research showed that the cautious master was right in rejecting the far-reaching conclusion based on imperfect evidence. There are but few students who possess steady enthusiasm for truth that enables them to be always clearly conscious of the sharp line between attractive theory and the observation that has been secured by hard and earnest work.

SPECIAL ARTICLE.

RECENT PROGRESS IN THE STUDY OF THE STOMACH.[1]

BY G. LINOSSIER,

PROFESSOR OF MEDICINE AT LYONS, FRANCE

Such a vast number of publications relating to the stomach have appeared that it is only possible to present the noteworthy points of each and to weigh the evidence for and against new ideas.

I. PHYSIOLOGY.

This year the surgeons report some 20 cases of recovery following total gastrectomy, and the operators, noting the satisfactory condition of their patients months later, invariably add that the possibility of living without a stomach is proof of the small importance of this viscus. But the success of a total gastrectomy no more proves the uselessness of the stomach than survival of animals after ligature of the pancreatic duct proves the uselessness of the pancreatic secretion. It merely shows that the functions of the stomach, like those of many other viscera, may, in case of necessity, be assumed by some other organ; and it indicates a superabundant provision of nature for carrying on the important function of digestion in case of disability of any one part of the digestive tract.

A partial assumption of the pancreatic functions when the pancreatic juice is prevented from reaching the intestine is shown by Gegalow, for the secretion of gastric juice is increased, and a proteolytic ferment appears in the bile.

Most physicians have believed that the only digestion that takes place in the stomach is that of albumin by pepsin, the starch-digesting action of the ptyalin from the saliva being at once inhibited by the acid gastric juice. But in the stomach the acid is, in great part at least, in albuminoid combination, and its action is thus much weakened; and the starch of a test-meal at the end of an hour is normally mostly digested. It is only in hyperchlorhydric conditions that salivary digestion seems interrupted; and the digestive discomforts following the ingestion of starchy foods in these cases testify to the usefulness of the ptyalin action in normal conditions.

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[1] Translated and abstracted by W. A. Bastedo, M.D., from Archives Générales de Médecine, January, 1902.

Müller has found that after a meal of bread or of boiled meal, 60 to 80 per cent. and sometimes even all of the ingested starch is dissolved. This solution is very rapid, and is much advanced by the time the gastric juice has acidity enough to check the ptyalin action. Even in hyperchlorhydrics some starch-digestion is accomplished before the acid overcomes the ptyalin, so it is not necessary to eliminate all starch from the diet of this class of patients.

Volhard has just discovered a lipase in the stomach. On evacuating the stomach after the ingestion of an emulsion of yolk of egg and sugar water, he found 70 per cent. of the fat saponified, while with unemulsionized fat no saponification takes place. The agent is apparently a ferment associated with pepsin and the rennet in the mucous membrane of the pig's stomach. Within the period, then, during which the food remains in the stomach, a general digestion of albuminoids, fats and carbohydrates goes on, and, in addition, certain insoluble mineral salts are dissolved in the acid medium. The stomach also secretes the rennet or labferment, a substance which one would not expect to find in such abundance in adults, or in animals other than mammals, if its action were limited to the curdling of milk. Danilewsky and Okonew consider it the agent in the reconstruction of peptone into albumin, an opinion confirmed by Lawrow, and lately by Saw Jalow. An interesting fact is that, just as all the different starches and sugars after digestion become the same "glycogen," so do all the albumins, after their change to peptone, become retransformed into one definite form of albumin.

That absorption by the stomach is limited is well illustrated by a case of Lépine's: A man during an attack of indigestion took 15 c.c. of Fowler's solution; yet, though it was not rejected by vomiting for two and a half hours, he showed no poisonous symptoms. Lépine supposes that the pylorus was closed, as is often the case in indigestion, so that the poison did not reach the intestine, where it would have been absorbed. At the same time, some absorption does take place, and this function is promoted by certain substances, notably alcohol. Even fat is absorbed, for in calves killed two hours after sucking Schilling found in the stomach-wall and leucocytes of the omental lymph-nodes numerous drops of fat not found in animals killed fasting.

The large number of researches on the action of dietetic or medicinal substances on the gastric juice ought to furnish clinical guides for the administration of food and medicine to the dyspeptic. But the results are often contradictory and inconsistent with clinical facts. Such researches are of great complexity, as one may judge when one recalls the still unsettled dispute as to whether the much-studied and much-used sodium bicarbonate is a stimulant of secretion, a depressant, or both, according to circumstances, or, if its action is largely due, as Reichmann has averred, to the water in which it is dissolved.

Experiments must leave out many factors which are present in clinical conditions. For example, in studying the comparative action of two aliments on the gastric secretion, an analysis of the stomach-contents, taken a definite time after the ingestion of each, would give no precise idea of the action of either; for if the aliments excited the same secretory elements, but one more rapidly than another, they would appear to excite secretion differently. Again, the action of a substance on the stomach of an animal may be quite different from its action on the human stomach. Besides, food acts on the gastric juice through a series of different mechanisms. As it passes through the mouth it induces a "psychic secretion" depending on taste, odor, etc.; in contact with the stomach-walls, it excites the regular secretion; passed on to the intestines, it has a reflex influence, and when absorbed it can still affect the gastric juice through the blood. Carried directly into the stomach, boiled meat or egg-albumin does not produce any secretion whatever, and may remain undigested for hours; yet, eaten regularly, these foods stimulate the psychic secretion; the gastric juice thus secreted changes some of the albumins to peptones; these peptones, in contact with the gastric mucosa, provoke the normal secretion, and the food is digested. If, on the contrary, the foods are introduced by mouth, but by an esophageal fistula are prevented from reaching the stomach, the psychic secretion is formed, but the failure of the food to come into contact with the gastric juice and mucous membrane of the stomach results in an action far from normal. And so experimental digestion may be quite different from that in ordinary conditions of human alimentation.

When an animal eats a heavy meal so as to exhaust the gastric mucosa of its pepsin, more pepsin can be secreted only in the presence of "peptogens," substances which transform the propepsin of the glands into active pepsin. The most energetic of these peptogens are dextrin, meat bouillons, raw meat, bread and cheese. The introduction of a non-peptogenic food, *e.g.*, white of egg, into a stomach exhausted by previous digestion, excites secretion of a juice which is acid, but non-peptic. If one adds a peptogen the juice becomes charged with pepsin.

Pawlow finds that certain substances have a "succagogue" action, that is, increase the total production of gastric juice without pepsin. Most substances are both succagogue and peptogenic. Alcohol is purely succagogue; inulin and glycogen, purely peptogenic; dextrin more peptogenic than succagogue, and Liebig's extract more succagogue than peptogenic. The succagogue action disappears (except in the case of alcohol) when the food is administered by rectum, while the peptogenic action remains. So the former action is probably local or reflex, while the latter takes place through the blood. In these studies several investigators have estimated the pepsin by the digestive power of the juice secreted; a fallacious method, because a gastric juice rich in pepsin can have almost no digestive power if it contains little or no acid, while a juice rich in acid with very little pepsin can dissolve considerable albumin. One must not forget, in studying digestive functions, that there is a natural limit to the solution of digested substances, independent of the quantity of acid or pepsin present.

Alcohol is generally supposed to owe its stimulant effect to direct action on the mucous membrane. But Frouin, Molinier and others have found that, even when administered by rectum, there follows a large production of hyperacid gastric juice free from pepsin.

Théohari and Babes obtained from prolonged exposure of the mucosa to absolute alcohol, at first a secretory excitation, then hyperchlorhydria. Animals killed in the cachectic period of alcoholism had interstitial inflammation of the mucosa, absence of border cells, and transformation of the chief cells into mucus cells.

Sokolow reports that hydrochloric acid retards the secretion of gastric juice, while lactic and butyric acids hasten it; but Mathieu claims that lactic acid retards secretion.

Schreuer and Riegel have compared an ordinary meal with the same meal mixed with saliva and introduced through a stomach-tube. In the absence of mastication secretory excitation was constantly less.

Following the statement that the gastric secretion is diminished by sweating, Edel and DuMesnil, independently, have shown that the hot-air bath has no constant action on stomach secretion.

Simnitzki has found a constant augmentation of gastric juice, even up to 50 per cent., following ligature of the common bile duct. In several cases of jaundice he has found the same increase, but not in catarrhal jaundice, on account of the inflamed condition of the mucosa.

The closure of the pylorus is effected by contact of hydrochloric acid (Hirsch, Von Mering and others) or fatty foods (Lintvarev) with the duodenal mucosa. White of egg, sugar, bile and pancreatic juice do not affect the pylorus. According to Chemiaxine, evacuation is facilitated by a special secretion of the pyloric portion, which takes place only during the very short time in which the food is in the pyloric antrum.

Frouin notes that sodium chlorid produces in a dog increase in the quantity of juice secreted and in its acidity, without change in the amount of pepsin.

II. SYMPTOMATOLOGY.

In 1890 Einhorn proposed in certain cases to obtain the gastric contents by means of a little bucket on the end of a silk thread. He now proposes to estimate the hydrochloric acid by diluting one drop of stomach-contents with one, two, three, four or more drops of water till the mixture just fails to redden paper impregnated with dimethyl amido-azo-benzol. One drop of normal gastric contents one hour after an Ewald test-meal requires three to six drops of water. If less water is enough the acid is diminished; if more water is needed the hydrochloric is in excess. This method is useful where it is impossible to obtain more than a few drops of gastric contents, or where the burette and soda solution are not handy.

Fremont finds the total chlorids in a dog's gastric juice to be constant no matter what the proportion of hydrochloric acid, but Soupault observes that this constancy does not exist in human pathological states. In a healthy man the total chlorids are .31 to .33 per cent., in hyperchlorhydrics, may reach .4 per cent., and in hypochlorhydria may fall as low as .225 per cent. This proportion is less vacillating than that of the acidity. Mathieu considers an increase in chlorids with normal hydrochloric acid as suggesting a tardy hyperchlorhydria, or as indicating that the stomach was not empty when the test-meal was taken.

Hypochloruria, when marked and constant, is significant of a grave degenerative lesion of the gastric mucosa.

Queirolo and Landi have proposed to delimit the stomach by the introduction of a small bladder on the end of a tube which at its outer end is bifurcated, one branch bearing a stop-cock and the other connecting with a Marey's registering apparatus. Air is blown in so as to distend the bladder slightly, and the stop-cock closed. Now, light percussion on the abdomen moves the stylet if performed over the stomach, but not if only over the intestine beyond its border. Sabrazès and Falières have verified the value of this process, and find the most suitable pressure in the balloon to be three or four cm. of water. With too high pressure the movements of the stylet are scarcely perceptible.

Bouveret notes a new sign of pyloric stenosis which he calls "intermittent gastric tension." With the patient lying down and relaxed, the left side of the epigastrium appears more prominent than the right, the lower limit of the asymmetrical tumefaction being well above the umbilicus. On light palpation this region gives a feeling of resistance like that from a moderately inflated balloon. During the palpation the swelling disappears and the two sides become symmetrical; then the swelling reappears and again disappears, and so continues off and on for a variable period after eating.

For determining the motility of the stomach the best method is that of Leube, in which by a stomach-tube it is ascertained whether or not the stomach is quite empty seven hours after a copious meal. Schule's method of extracting the contents one hour after a fixed meal, desiccating in air and weighing, has furnished no useful results.

Two years ago, Winkler and Stein proposed iodipin, an iodin compound of oil, for testing the motor functions when there is objection to the stomach-tube. Iodipin is unchanged in the stomach, but sets free its iodin in the intestine, so when the saliva gives the test for iodids, the iodipin must have passed the pylorus. The method has proven of fair value.

Cherwinski calls attention, in cases of dilatation, to a dulness four or five cm. in extent between the ninth and eleventh left intercostal spaces behind. It resembles pleurisy, but disappears if the patient leans forward, or if the stomach is empty.

Some years ago Charcot and Gilles de la Tourette observed in hysteria certain hyperesthetic areas in the neighborhood of diseased organs. Head has mapped out some such zones and finds hyperesthetic points over the skull in stomach affections. Other researches have established other such areas in gastric troubles, but their topography is very variable, and they have no diagnostic or prognostic significance.

III. PYLORIC STENOSIS, ULCER, HEMATEMESIS.

During the past year there have been over 70 articles on the pathology of pyloric stenosis in the new-born. Such stenoses are of three types—anomalies of development, pyloric hypertrophy and spasm. The anomalies are mostly absence of communication between stomach and bowel; more rarely, strictures due to some intrauterine process (fetal peritonitis, compression by congenital tumor, syphilis, etc). Hypertrophy constitutes 70 per cent. of the cases, and in these the muscular layer is most affected; the mucosa may be normal or the seat of gastritis, and the lumen may be so narrow as scarcely to admit a stylet. Weill and Péhu report two cases of spasmodic stenosis with death from other cause. The gross and histological examination showed an absolutely normal pylorus and stomach. They attribute the spasm to hyperesthesia. Pfaundler thinks that some of the so-called hypertrophies found postmortem are merely pylori which have remained in contraction after death, as the heart may remain in systole. With complete stenosis the symptoms begin immediately after birth; with hypertrophy, one to three months later. There is profuse vomiting of all milk ingested, and constipation. Dilatation of the stomach, peristalsis and pyloric tumor are seldom made out. Several have noted absence of free hydrochloric acid and excess of lactic acid. The usual treatment consists of heat over epigastrium and regulation of nursing. Weill and Péhu recommend small doses of sodium bicarbonate; Pfaundler advises lavage and Heubner irrigation of the bowel. Surgical treatment in 14 cases was followed by nine deaths. When the diagnosis between spasm and hypertrophy is doubtful, medical treatment should be tried first, but not continued long enough for the child to become too weak to be operated upon. Mild cases of stenosis in infants undoubtedly pave the way for later stomach affections, notably early dilatation.

Of rare causes for pyloric stenosis in the adult Caminiti reports a true myoma, and Leven and Lipscher each report tuberculosis. The existence of spasmodic stenosis is generally accepted, and Bouveret thinks it can sometimes be detected by palpation in thin subjects, especially in women whose habitual use of the corset causes a lowering of the pylorus and its approach to the vertebral column. In the course of painful hyperchlorhydria one may observe a small movable cylindrical tumor the size of a finger, painful on pressure and of fairly hard, though not woody, consistency. It is not felt after the painful crisis is past. In the stenoses with periodical vomiting a tolerant stomach allows an accumulation of digestive residues for several days, then by a crisis of vomiting thoroughly empties itself. It again rests for a time, then again empties itself, and so forth.

Soupault cites nine cases of the paradoxical condition of pyloric stricture without retention. The symptoms were: Pains some hours after meals; sour regurgitation; frequent vomiting, and failure of nutrition. The stomach-contents after a test-meal shows a variable hyperchlorhydria, but the stomach seems to empty itself normally. The stomach is not dilated, and in the morning before eating is either empty or contains a small amount of pure gastric juice without alimentary residue. Gastro-enterostomy showed a pyloric lesion in each case: in six cases it was ulcer; in one, cancer; in two, adhesions. Immediate disappearance of the symptoms followed operation. There were no definite signs of retardation, though the evacuation might be painful, and one asks if there was a stricture. The symptoms seem to confuse hyperchlorhydria and Reichmann's disease. Reichmann's conception was: At first, a simple functional hyperchlorhydria; the highly acid secretion then gradually prolongs its production, continuing it even during the intervals of no digestion. Thus gastrosuccorrhea is established; at first intermittent, finally continuous. As a complication, appears the peptic ulcer, or perhaps pyloric stenosis, either spasmodic with hyperchlorhydria as its cause, or anatomically dependent upon an ulcer or its cicatrix.

Mathieu and Laboulais have insisted on the frequency of ulcer in the grave forms of Reichmann's disease, but Soupault's cases show that even when Reichmann's syndrome is not associated with alimentary retention, pyloric ulcer is very frequent and may be present in cases which are clinically only hyperchlorhydria. Soupault, later, reports 18 gastro-enterostomies for Reichmann's disease, in all of which a pyloric ulcer was found. At operation, however, the exploration of the pylorus is uncertain, and surgeons have been deceived into supposing that they were dealing with pyloric spasm simply because they were unable to find a lesion. So it is probable that ulcer, much oftener than is supposed, precedes hypersecretion, for if it is difficult to diagnosticate ulcer, it is well-nigh impossible to determine the absence of ulcer, which lesion is probably often in existence for some time before it manifests itself clinically.

After section of the vagi below the diaphragm, Van Yzeren has observed a round ulcer of the pylorus in a rabbit, though there was constantly diminished acidity as the result of the section. Dalla Vedova failed to get ulcer from vagus section, but obtained some gastric ulcerations from lesions of the cardiac plexus and splanchnics.

Dieulafoy has insisted on the frequency of "appendicular black vomit" or hematemesis after appendicitis, and quotes six cases of such vomiting after the operation. Charlot also reports five cases, only one of which had not been operated upon. May not the operation on a patient already poisoned by appendicitis have played a rôle in the production of the hemorrhage? Certainly hematemeses have followed the simple administration of chloroform. Lancereaux believes in neuropathic hemorrhages from the alimentary tract which appear at times in gouty or rheumatic patients. Hirschfeld reports hematemesis for which no cause could be found except arteriosclerosis. Dumont has seen hematemeses after influenza, and their association with metrorrhagia would seem to denote a general rather than a local origin.

IV. CANCER.

Tripier and Duplant have recently cast doubt upon the possibility of the transformation of simple ulcer to cancer, claiming that a cancer could not develop in a region rendered anemic by the obliterating endarteritis of gastric ulcer. But Hayem has found a few limited spots of cancer on the edges of an old ulcer, at the base of which there was no trace of epithelial infiltration; and Hoche has discovered at the bottom of an evidently old ulcer a cancerous nodule secondary to cancer of the esophagus. Hayem reports four cases of ulcer on the lesser curvature, just at the pylorus, in which the symptoms of cancer suddenly replaced those of ulcer. A striking phenomenon of the cancerization of an ulcer is the rapid change from hyperchlorhydria to achlorhydria. In analyses made some days apart there is steady and progressive diminution in acidity.

Boas has summed up the clinical characters in 141 cases of cancer. The first symptoms may bruskly follow an accident or error in diet and so mislead the physician; or hemorrhage may be the first sign and lead to the diagnosis of ulcer. Anorexia is far from constant, the appetite being good in one-third of the cases. There is no relation between the preservation of the appetite and that of the motor or secretory functions. Cancer of pylorus and fundus are about equal in number. The former is generally accompanied by retention, has a more rapid course, is more painful, and has more tendency to hemorrhage. In cancer with pyloric obstruction, the production of hydrochloric acid is more persistent. Constipation is the rule, diarrhea being present in only four out of 53 cases. Edema of the ankles was noted six times early in the disease, and eight times later in its course. The supraclavicular lymph-node was found enlarged in one case only, and this well advanced. Umbilical metastasis was noted twice.

V. NEUROSES.

For hysterical eructations preceded by the swallowing of air, Bouveret, in 1891, proposed the name "hysterical aerophagia." Since then the condition has been found to be rather common, and Lyonnet and Vincens believe that it may simulate flatulent dyspepsia, or by dilatation of the stomach give rise to actual gastric troubles. Mathieu and Follet call attention to the volley-like character of the belchings, and apply the term "press-the-button belchings" to those of patients in whom pressure on a given point of the body is followed by a veritable crisis of eructations. They think dyspepsia the underlying cause, the patient instinctively endeavoring to instigate the kind of discharges which he has found to give relief. The author believes that there are two types, the dyspeptic and the hysterical. In the dyspeptic type the patients swallow air to stimulate the elimination of the gases which distend the stomach. In these aerophagia is slowly established, remains moderate and can be cured by simply getting the patient to refrain from swallowing air. In the hysterical type the beginning is brusk, the development intense, and the action beyond the power of the will. Aerophagia is in certain cases a serious affection accompanied by uncontrollable vomiting and malnutrition; or the distention may give rise to important respiratory and circulatory disturbances. It is analogous to rumination, the stomach, however, ejecting only gas instead of a mixture of gas and aliments. In some cases the air accumulates in the esophagus and does not reach the stomach.

Kaplan's "nervous pseudotympanites" is distinguished from true tympanites by the collapse of the belly under chloroform or following suggestion, without the emission of any gas. The cause of the exaggerated prominence of the abdomen is the lowering of the diaphragm (sometimes painful) and its fixture in the position of forced inspiration. Suggestion is the best treatment.

VI. MISCELLANEOUS.

Einhorn has a new clinical syndrome which he calls "pseudohyperchlorhydric achylia gastrica." His name achylia gastrica refers to a functional absence of gastric juice, the stomach-contents after a test-meal containing neither hydrochloric acid nor ferments. This new condition shows such stomach-contents, but presents the signs of hyperchlorhydria; namely, good appetite, sometimes abnormal; painful crises, one-half to two hours after eating, quieted by alimentation, and very little or no sensitiveness to pressure in the epigastrium. An attempt at treatment by sodium bicarbonate might temporarily confirm the wrong diagnosis, for the bicarbonate seems to have an analgesic action in the late digestive pains of insufficient secretion. It is certainly of interest that the symptoms of hyperchlorhydria may accompany a gastric juice not only hypoacid but even neutral, and that in the absence of analysis one would be in error regarding the true condition of the stomach. Strauss has shown that the functions of absorption and nutrition in achylia gastrica are much more normal than one would suppose.

In two cases of acute dilatation Borchard has found a fold of mucous membrane obstructing the pyloric orifice. Matweew reports two cases following abortion, and Kausch two cases subsequent to transverse myelitis.

Of foreign bodies, Siraud and Keppelin have removed from the stomach of a fifteen-year-old girl, a woven-hair cast of the stomach, weighing about one and one-half pounds. The patient was hysterical, and frequently swallowed hair, paper and thread. She experienced only slight gastric symptoms. Derby saw a woman who passed without pain a key three and one-half inches long and weighing nearly four-fifths of an ounce, which she had swallowed seven days before. Tuffier reports a man who carried a fork almost nine inches long in his stomach for 78 days, without any pain whatever.

The gastric troubles secondary to other lesions are considered in many papers, such as gastropathies of cardiac origin, vomiting of pregnancy, acholuric icterus of dyspeptic nature, gouty affections of stomach and intestines, gastric syphilis, etc.

The influence of stomach conditions on other organs is treated in papers on stomach vertigo, nightmare, the influence of the alimentary régime on the mental condition and the psychic functions, dyspeptic glycosuria, cardiac troubles of gastric origin, the liver in dyspeptics, etc.

VII. THERAPEUTICS.

For anorexia, Hoenig, following Letulle, commends application to the epigastrium of solid carbonic acid at 60°-80° below zero. The alkaline persulphates and "persodine," a stable solution of the persulphates of sodium and ammonium, are also highly spoken of. The dose of persodine is one and one-half grains half an hour after each meal (Robin).

For hyperchlorhydria, Clemm and Aldor use sugar rather than atropin, for they find that the addition of 20 per cent. of sugar to milk diminishes the gastric secretion and lessens the acidity nine-tenths.

Fremont's "gasterine" seems to have given good results in diminished acidity with intestinal fermentation and diarrhea, but Soupault cites six of these cases that were cured just as easily with simple hydrochloric acid lemonade.

Korczynski has found that mustard, horse-radish, or pepper added to a test-meal causes rather a diminished secretion, though the motility is stimulated. Roux finds peptone to be a good excitant of gastric motility.

The fact that Debove has obtained immediate relief by lumbar puncture in some gastric crises which were probably tabetic, leads us to think of the possibility of high tension of the cerebrospinal fluid as the cause of certain gastric crises.

For years lavage of the stomach has been considered a panacea, and the author fears that there is now a reaction with a tendency to discard this useful procedure. There certainly is some risk when the stomach is ulcerated and in danger of perforation or hemorrhage. But even in these cases, Lucas-Championnière has shown that the stomach is never in repose when bleeding, and lavage may allow rest by causing cessation of vomiting and pain. He has stopped gastric hemorrhage by lavage in several instances. The author reports the stoppage of bleeding by lavage, after other measures had failed, in two cases of cancer. He concludes that gastric hemorrhage is not an absolute contraindication to lavage when this is otherwise indicated by fermenting masses in the stomach, or by incessant vomiting. Bourget uses ferric chlorid in his lavage-water; Ewald employs large quantities of ice-water.

Mathieu and Laboulais condemn lavage as enfeebling the muscular power of the stomach; Robin thinks it may cause hyperchlorhydria; while several authors, in condemning the abuse of lavage, speak highly of its proper use. It has undoubtedly been abused, but it remains one of the best methods of gastro-intestinal disinfection, with favorable action on the motor functions of both stomach and intestine.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting Held September 4, 1902.

The President, Dr. John M. Fisher, in the Chair.

Endothelioma of the Uterus.—Dr. L. H. Prince of Philadelphia reported the following case, which furnished a subject for discussion: The lesion occurred in a woman of sixty years, and was recognized from a study of the débris of a thorough curettement. The earliest microscopical findings were of the nature of a pseudomembranous inflammation of the endometrium, and because of these findings the curettement was resorted to and the endothelioma was discovered. Operation was advised and successfully performed by Dr. Wilmer Krusen. The organs were found to be freely movable, and no infiltration of any of the viscera could be recognized. The patient became infected, possibly from the suture material used, and died on the 14th day after the operation. The cause of death was peritonitis, gangrenous in character, and the bacterium found was the staphylococcus pyogenes albus. The kidneys showed some chronic interstitial change, together with acute engorgement. That possibly accounted for the casts and albumin observed during life and which appeared some days after operation. Only a partial postmortem was permitted. The uterus was carefully studied microscopically, and two distinct types of neoplasm recognized. The one occupying the inner area of the uterus was clearly an endothelioma, apparent from the character of the cells found, together with their tubular arrangement. The second type consisted of a papillary adenomatous growth quite typical in structure and arrangement. The evidence is clear that the two neoplasms do not transform one into the other, but remain distinct. Certain peculiar large cells present in this region were considered as decidual cells persisting in this uterus until an unusually late period in life. The paper closed with a review of the literature on the subject of endothelioma of the uterus, in which was noted the rarity of this variety of neoplasm, together with the possibility of its occurring at any age, the ages so far observed ranging from 18 to 60 years.

Dr. C. F. Nassau said that the condition described in the paper showed so few similar cases on record that he hardly saw how those who really know nothing about it could find very much to discuss. It takes rather an expert pathologist, he thought, one who spends many hours weekly at the microscope, to tell the differences between perithelial and endothelial growths, which, however, were beautifully shown in the drawings exhibited by Dr. Prince.

Dr. G. G. Ross remarked that the condition of endothelioma of the uterus is so rare that he did not suppose it had occurred as many as four times. Compared with the rest of the growths in the uterus, it would seem that it must be difficult to recognize, and perhaps that is the reason it is not more commonly reported. The proportion of endotheliomatous to other tissues in the uterus is so small that the occurrence of malignancy, originating in it as often as four times, is another argument in favor of a radical procedure in handling even suspicious cases of uterine malignant growths.

Dr. Prince, in closing, said that in regard to the frequency of endothelioma, perithelioma, etc., occurring in the genitalia, the facts stated are well known to us. There is no reason why we should expect to find these peculiar growths in the uterus simply for the reasons mentioned. In other situations the tumors are rather common. There is no question about the excessive malignancy of these bodies. The peculiarity of the history is marked; the duration of the condition three or possibly four years, with the quantity of the discharge slight, at no time excessive, never hemorrhagic, growing steadily, however, toward an offensive character. Dr. Prince regretted that Dr. Krusen was not present, because the details of the clinical aspect were followed by him more closely than by the speaker himself. It was peculiar, he said, that the existence of the patient whose case he had reported should have been terminated by gangrenous peritonitis, and that staphylococcus pyogenes albus should have been found. The question must arise, Did infection occur at the time of operation, or secondarily? He was inclined to think that it occurred secondarily. The marked evidence of sepsis, the peritonitis found postmortem, and the low temperature make the case interesting. Dr. Prince thought that the suture material used was chromicized catgut.

One Hundred Obstetrical Cases.—In this paper, presented by Dr. Edwin Rosenthal, the author wished to show the average run of these cases in private practice. As examples, 100 cases were reported taken from the case-book of the author, and somewhat extended reports were given of cases which the author deemed of more than ordinary interest.

By comparison with a former paper a uniformity was shown in the average occurrence of exceptional cases. In the present paper the author placed peculiar emphasis upon the nationality of the patient, as a factor, together with the age of the patient, as well as the number of the confinement. The proportion of males to females born showed an increase in the number of males —59 males to 41 females. In the author's former paper, entitled "One Thousand Obstetrical Cases," the proportion was 568 males to 446 females. There were 17 deaths among the 100 children, and two sets of twins. The majority of the presentations were by the head, necessitating the use of the forceps 15 times. Of the 15 cases, 12 were male children and three were females, making the proportion one female child needing the forceps to four male children. Regarding the use of forceps, the author gave his rule, which he deemed sufficiently elastic to suit most cases, as follows: Any case suitable for the use of the forceps should have them applied if after a period of three hours no progress whatever is made towards the delivery of the child. The author described suitable forceps cases, those cases that can possibly be delivered with the aid of the instruments, such as an occipital anterior position, right or left. An occipital posterior position, right or left, was always a debatable condition, and the use of the forceps should not be considered as the only method to pursue. Many of these positions are unsuitable for forceps, and the question of a podalic version or section may need to be considered.

The author objected to the indiscriminate use of antepartum and postpartum douches as of doubtful utility. Douches should only be used in cases of infection, and then for special purposes. The author was in favor of the use of an anesthetic always when any operative procedure was in order, and generally when the relief of great pain was required. Lacerations of the perineum were always repaired, though in a leisurely manner, that is, after the lapse of a day or so. The author, however, was in favor of postponing such operations until involution was completed, a period of two to three months, being firmly persuaded that the latter course gave better results than the former. The author wished obstetrics to be a surgical procedure; and being thus considered, all the rules of hygiene and cleanliness should be the fundamental principle in practice.

Dr. John C. DaCosta said his experience with left occipital posterior position had shown that it was generally easily converted into anterior, particularly if the forceps or one blade as a vectis is used. The most of my cases have been American women, and in these we know that the heads of the babies have been larger than those of foreigners. I was glad to hear Dr. Rosenthal speak of the disuse of douches. Long ago I satisfied myself that douches, unless for some purulent or similar discharge, should not be used, and my belief was confirmed by an article in a German paper, describing experiments in which streptococci had been implanted in unsterilized vaginæ. The streptococci were killed within an hour. The vaginæ were then sterilized and the streptococci again implanted, when it took 24 hours to kill them. This I thought was a strong argument against the douche. I think the author is rather free in the administration of ether in obstetric work. I would like to ask what proportion of hemorrhage he has had in cases in which he has used ether. I have seen very serious results from its use. In one case in consultation I tore the inhaler from the hand of the anesthetizer, and had to use active means to keep the woman from dying. The woman's heart, lungs and kidneys were sound. I think nature intended that woman should have a certain amount of pain to help expulsion. We know that ether affects, if it does not entirely relax, the muscular tissue, and we do not want this to result in hemorrhage.

Dr. M. M. Franklin congratulated Dr. Rosenthal on his paper, but regarded the infant mortality mentioned as rather high, which was perhaps due to the foreign nationality of the patients. Repair of the perineum should be made immediately after labor. As an anesthetic I have never used anything but ether, and have never noticed any bad results. In some of my cases postpartum hemorrhages have occurred, but I think this would have happened, no matter what anesthetic was employed. In every case of occipitoposterior presentation I have been able to deliver without section or craniotomy. Perhaps this has been due to good fortune rather than to skill, but I think with Dr. DaCosta that with patience and the use of forceps we can secure the anterior position, or deliver as a posterior presentation with, of course, more or less laceration of the maternal structures.

Dr. J. M. West said that a paper of this character is always of extreme interest to the members of the profession, particularly to those practising obstetrics. I do not altogether agree with the author of the paper concerning the subject of anesthetics. I am partial to chloroform, and use it invariably, unless the conditions are such that I am unable to watch it. If given carefully, I believe it is the safest anesthetic we have in obstetric practice.

The question of posterior rotation of the occiput is extremely interesting, and not always easy to settle in the best manner. I have never met with a case of rotation of the occiput posteriorly in which delivery could not be made safely by means of the forceps. I recall two instances of this kind in which spontaneous delivery occurred, and one was in a primipara. It occurred without injury to the perineal floor, and in spite of the fact that the child was quite the average size. As late as yesterday morning, without an anesthetic, I delivered a woman of a child weighing at least 10 pounds. In this case I am quite sure that the natural forces of labor were a very material help to me in securing safe delivery of this child without injury to the perineal floor. This, however, I think, is an unusual condition, and the method one that would not be admissible as routine practice.

Dr. Rosenthal in closing the discussion explained that the difficult cases mentioned in his paper were those to which he had been called when the woman had been in labor, perhaps 10 to 24 hours or longer, and in which it was impossible to rotate the head either way. In the fatal case referred to, if there had been a consultation to devise a means of ending the labor, the woman's life might have been saved, for there was nothing shown by the postmortem as a cause of death, nothing that could be considered a pathological condition, and he was forced to the conclusion that death was the result of an exhaustion of the vital forces, due to the position of the head, this being a position that could not be remedied either by the woman's own unaided efforts or the use of the instruments. In cases in which the promontory of the sacrum is a little too large, and the head is firmly fixed in the fourth position, a Cesarean section should be done. The use of the obstetrical forceps in such cases should always be a debatable question. The exceptional cases are those in which the uterus has been drained of its liquid contents, and the head is in a posterior right or left position. I believe if the child is alive, a section is the right procedure, and gives greater hope to both child and mother than a forcible instrumental delivery. But, if the child be dead, craniotomy is justifiable. If the instruments be applied in this position, and the pelvis large enough, or the head of the child small enough, to be forced through, delivery can be accomplished, but the perineum is invariably torn, and other and greater harm may be inflicted. Anesthetics should be employed when we apply the instruments. And in this regard I am glad that Dr. DaCosta referred to hemorrhages. The first death I saw in obstetrics was due to a postpartum hemorrhage, in a woman delivered of twins without a doctor, nurse, midwife or anesthetic. I know that hemorrhages sometimes follow ether, but there is some other cause at work. A short time ago I saw the most frightful hemorrhage, in which I gave ergot hypodermically, used saline effusions, and so on, and finally used iodoform gauze to plug the uterus. The cause of the hemorrhage was a remnant of membrane. I think that postpartum hemorrhages are generally due to something left behind, though, of course, ether may sometimes produce them. I should make it a rule of practice in all cases of hemorrhage of this character, to *first* look for the cause and then treat it. Too much douching is wrong. I believe we ought to use an anesthetic in all obstetrical operations, but I most certainly believe it is wrong to increase our obstetrical practice by the employment of anesthetics.

BOOK REVIEWS.

Transactions of the Southern Surgical and Gynecological Association. Vol. XIV. Fourteenth Session, held at Richmond, Va., November 12, 13 and 14, 1901. Published by the Association. 1902.

This volume of transactions comprises 40 papers on general surgical and gynecological topics. Among those of special interest is one on the disadvantages of the vaginal route for pelvic operations, by Dr. Joseph Price. Others of like importance are: "Treatment of Tumors Complicating Pregnancy," by Dr. R. B. Hall; "A Unique Case of Extra-uterine Pregnancy," by Dr. H. Tuholske, and a paper on some of the disadvantages of overzealous operating and drainage in appendicitis, by Dr. R. T. Morris.

The Principles and Practice of Gynecology. By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (3d) edition. Octavo volume of 756 pages, with 474 engravings, of which 60 are in colors and 22 colored plates. 1902. Philadelphia and New York: Lea Brothers & Co. 1902.

The present revision has transformed this well-known treatise into what is practically a new work, which, admirable as it was before, in its new guise, stands easily at the head of our American literature of practical general gynecology.

The actual number of pages added is 44, and of illustrations 21, but there has been so thorough a revision and rearrangement of the text that about 100 pages of new matter appear, and enough of the older drawings have been discarded to permit the insertion of 25 new engravings and 14 plates without appreciably increasing either the convenient size of the volume or its moderate price. The condensation has been effected mainly by a complete remolding of the sections on Etiology, Pathology, Symptomatology, Physical Signs, Diagnosis and Differential Diagnosis, which, all through the book, have been taken out of the discursive paragraph form and clarified by compact arrangement in tables and parallel columns. In this way extensive additions have been possible, while at the same time the practical usefulness of the book has been greatly enhanced, both for the class-room and for the general practitioner, to whom especially the tables on differential diagnosis should prove of the greatest assistance.

The illustrations throughout are of the highest order, and without exception tell a clear and definite story. An innovation that will be appreciated is the introduction of a series of monochrome plates presenting the successive steps of important operations; for example, hysteromyomectomy and vaginal hysterectomy are respectively shown in 15 plates and 15 drawings.

To advert now to the subject-matter itself, we find it everywhere permeated by a spirit of broad-minded common sense, a sort of radical conservatism that has only the welfare of the patient at heart, and neither entails unnecessary risks from operation nor counsels needless mutilations, while on the other hand the evils of long continued palliative procrastination in serious conditions are no less faithfully described. The application of electricity, for example, in the treatment of endometritis, pelvic peritonitis and myoma is roundly scored by the author, who says in his article on the latter topic that "the survival of the electrical method in gynecology depends chiefly upon the patient's ignorance of its inadequacy and dangers, upon her worship of the mysterious, upon an unreasoning dread of operative measures, and upon a desire to grasp any other promising means of relief." He is no less drastic in his condemnation of that species of per blind office gynecology which can see no further than the interior of the uterus, and pays no heed to the general systemic condition usually underlying the chronic endometritis, and which its caustics and tampons are powerless to heal. "Topical treatment," he says, "should seldom be long continued. It has a more legitimate place as a supplement than as a substitute for systemic and operative treatment. A reproach will be lifted from the medical profession when the indiscriminate use of topical treatment has been relegated to the dark ages of gynecology." It is difficult in a work so replete with interesting matter to select topics for special comment, but the often neglected subject of preparation for operation is especially well discussed, and the author's insistence on the importance of securing a gas-free bowel before laparotomy as the best remedy for postoperative tympanites deserves mention. In the matter of drainage he adopts the modern view and is inclined to reverse the old-time apothegm and say, "When in doubt, don't drain."

Pelvic massage properly done (preferably by a woman) is of great value as an adjuvant to other treatment, and an admirable section with a large number of illustrations is devoted to it. In his discussion of the comparative merits of the vaginal and abdominal routes for pelvic operations the author shows himself reluctant to give up the lower mode of approach, so dear to the gynecologist, since it is one of the hall-marks of his caste; but he finally concludes by admitting that "the vaginal route was for a time much in vogue, but at present among conservative surgeons the tendency is to return to the abdominal route." The author's method of end-to-end approximation of the broad ligaments in hysterectomy and his operation of perineorrhaphy are both based on the soundest principles, although of the latter operation it may be said with truth that every man should do his own.

From every standpoint, therefore, we have nothing but praise for the work so eminently adapted to satisfy student, practitioner and surgeon and which is a credit both to American gynecology and American publishing.

THE ESSENTIALS OF HISTOLOGY, DESCRIPTIVE AND PRACTICAL, FOR THE USE OF STUDENTS. By E. A. SCHÄFER, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh; formerly Jodrell Professor of Physiology in University College, London. Sixth Edition, revised and enlarged. With 463 illustrations. Lea Brothers & Co., Philadelphia and New York, 1902.

THIS new edition of Schäfer's well-known histology has been considerably enlarged, partly by additions to the text, especially that descriptive of the structure of the central nervous system, a proper knowledge of which is so essential to students of medicine, and partly by the provision of new illustrations, the majority of which have been drawn expressly for the book and are truly admirable. We can only repeat our warm words of praise for previous editions, and again unhesitatingly recommend the book to all beginners.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

TYPHOID FEVER. By J. T. Moore, M.D. 12mo, 155 pages. G. P. Engelhard & Company, Chicago.

GENERAL PARESIS. By Robert Howland Chase, M.D. 12mo, 291 pages. P. Blakiston's Son & Co., Philadelphia.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY, 1901. By Henry B. Ward, M.D., Secretary. 8vo, 294 pages.

DEVELOPMENT AND EVOLUTION. By Prof. James Mark Baldwin. 12mo, 395 pages. The MacMillan Company, New York.

THE MEDICAL DIRECTORY OF THE CITY OF NEW YORK. By the Medical Society of the County of New York. 12mo, 594 pages.

ESSENTIALS OF HISTOLOGY. By Louis Le Roy, M.D. 12mo, 263 pages. W. B. Saunders & Company, Philadelphia and London.

COMPEND OF SURGICAL PATHOLOGY. By Alfred Edward Thayer, M.D. 12mo, 322 pages. P. Blakiston's Son & Co., Philadelphia.

DISEASES OF THE STOMACH. (Third Edition). By John C. Hemmeter, M.D. 8vo, 894 pages. P. Blakiston's Son & Co., Philadelphia.

PRACTICAL DIAGNOSIS (Fifth Edition). By Hobart Amory Hare, M.D. 8vo, 698 pages. Lea Brothers & Co., Philadelphia and New York.

DISEASES OF THE RECTUM AND ANUS. (Second Edition). By Samuel Goodwin Gant, M.D. 8vo, 687 pages. F. A. Davis Company, Philadelphia.

ESSENTIALS OF THE DISEASES OF THE EAR. By E. B. Gleason, M.D. 12mo, 214 pages. W. B. Saunders & Company, Philadelphia and London.

THE TREATMENT OF FRACTURES. (Third Edition). By Charles Locke Scudder, M.D. 8vo, 485 pages. W. B. Saunders & Company, Philadelphia and London.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, 1901. By Frank Hugh Montgomery, M.D., Secretary. 8vo, 216 pages. Rooney & Otten Printing Co., New York.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY. (Fourth Edition). By George Frank Butler, M.D. 8vo, 895 pages. W. B. Saunders & Company, Philadelphia and London.

A TEXT-BOOK OF SURGICAL PRINCIPLES AND SURGICAL DISEASES OF THE FACE, MOUTH AND JAWS. By H. Horace Grant, M.D. 8vo, 231 pages. W. B. Saunders & Company, Philadelphia and London.

ATLAS AND EPITOME OF TRAUMATIC FRACTURES AND DISLOCATIONS. By Professor H. Helferich. Translated and Edited by Joseph C. Bloodgood, M.D. 12mo, 353 pages. W. B. Saunders & Company, Philadelphia and New York.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. (Second Edition). Edited by J. Collins Warren, M.D. and A. Pearce Gould, M.S. 8vo, vol. I, 965 pages; Vol. II, 1,122 pages. W. B. Saunders & Company, Philadelphia and London.

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ORIGINAL ARTICLES.

THE TEACHING OF SURGERY; WITH ESPECIAL REFERENCE TO DIDACTIC METHOD.*

BY JOSEPH D. BRYANT, M.D.,
OF NEW YORK;
PROFESSOR OF THE PRINCIPLES AND PRACTICE OF SURGERY IN THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE

As it appears to me, one cannot rationally consider the comparative value of definite integral parts of any plan of complete teaching of a special topic, or of doing anything else, without first comprehending a general system of action for the purpose, with which the specially designated parts may logically and effectively blend. The fact that a chain can be no stronger than its weakest link is not lessened in force by the idea that an isolated link may be strengthened without materially adding to the reliable strength of the chain itself. Whether or not it is possible so to construct a metaphorical chain of surgical teaching that its various links will bear without parting the tug of practical experience is of course a matter of opinion, a matter of proper tempering if you please, the same as in the instance of a chain of base material.

Everything in this life has a language peculiar unto itself, a manner of expression and a feature significant of its individuality. In the common method of expression the word "language" relates to human articulate speech, a form of speech either acquired as the result of imitation fostered by the urgent needs of intimate contact of the knowing with the ignorant, or which is wholly or in part the outcome of didactic method gained through the means of competent agents selected for the purpose. All animate beings have ways of expression by means of which they hold communion with each other, and whereby they are severally distinguished from each other. More broadly considered, language may embrace every manner of communication by means of which facts relating to things are expressed. Therefore disease has a language, commonly known as the signs and symptoms of disease. Health also has a language, and health and disease are distinguished from each other by the well-established comparative differences in their respective manners of utterance. Each disease and each surgical condition has its distinctive speech of signs and symptoms, by which one is known from another. It is hoped that every hearer will now note that medicine and surgery are here linked together at the outset, with the idea of emphasizing the fact that their respective languages are not illogically dissimilar, and that wisely to employ surgical methods of cure, the surgeon should be as well a good medical interpreter as an expert technician. I know of nothing extant more subversive of the professional dignity and self respect of a conscientious surgeon than to heed unquestioned a request to operate on a patient for the relief of a surgical condition of which he himself has not mastered the history. But enough of this.

As already observed, human beings and also their physical afflictions—medical and surgical alike—have each a distinctive language. That of the human race is instilled both by the subjective and objective methods of teaching. The subjective—the didactic method—being employed for the purpose of laying a broad, systematized foundation of enduring intelligence to which the objective—the pseudoclinical method—promptly adds fitness for use. It seems to us that those engaged in "the teaching of surgery" as exemplified by the scientific language of that calling can do no better in achieving their purposes than first laying it a broad and comprehensive foundation, along parallel lines of action, such as is made by competent lay teachers in the exercise of a comparatively similar feature of general instruction, and finally wisely completing this structure by means of practical educational methods that establish its fitness for the just demands of life's activities.

In our opinion the practical values of the utterances of surgical speech can be best estimated in all their features by a studious inquiry based on the following brief syllabus of a surgical case of whatever nature. I think it proper to say at this time that the succeeding synopsis has been used by me in systematic surgical instruction for many years with but slight deviations. Also that the members of the class are required to copy and apply it to their text-book studies in surgery, grouping the facts as they read, and writing them at once under the relative headings of the classification. At once please understand that much of the following phraseology is of the kind employed in impressing upon the students the rationale and importance of this plan of instruction, and therefore need not be regarded as addressed directly to those of adult growth.

This classification is made up of 11 component parts so arranged numerically as to be in *a logical succession of interdependence.* They are arranged in the following order:

1. The Definition.
2. The Anatomy
    - Histological
    - General
    - Regional
        - Embryological
        - Surgical.
3. The Pathology
    - Microscopical.
    - Gross
4. The Classification.
5. The Causation.

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* Read before the American Surgical Association.

6. The Symptoms.
7. The Diagnosis.
8. The Complications.
9. The Treatment.
10. The Prognosis.
11. The Sequels.

Definition.—The expression "definition" is obviously placed at the head of the list that the student may prepare himself to know whereof he speaks. With this object in view, each student is required to present a comprehensive definition of the topic under consideration, which definition preferably should be the product of his own conception, rather than one gleaned from textbook lore. In the construction of a definition by the former means intelligent thought is required, while in expressing the latter a retentive memory alone may suffice. Let any who may regard this requirement as a too primary matter rapidly write their respective ideas of the definition of some well-recognized surgical topic, and I will risk the prediction that not all of the forms of expression will bear intelligent relationship to each other, and that many of them will be sadly awry and contrary to the diction of Dunglison.

Anatomy.—The anatomy is placed second in the list because one ought to know the normal arrangements of the disordered or impaired tissues, so that he may properly locally estimate the nature, degree, extent and prospective outcome of a surgical infliction, also the importance of the proper estimate of congenital features. As the experienced hunter estimates the chief peculiarities of the game he seeks by the distinguishing features of the imprints of its footfalls, so the educated surgeon ought to estimate the chief peculiarities of a surgical condition by its imprints on the affected parts.

Pathology.— The pathological effects of disease and injury on human tissues constitute an important part of their history, and exercise great influence on the question of the life of the patient and the integrity of the part. It seems to us as fitting that the pathological aspect of a case should go hand in hand with the normal, so that a keener appreciation of the value of each can be readily noted by comparison.

Classification.—The classification is next in order, and is so placed because it is regarded as very important that one shall know the different varieties of the subject under examination, whether it be of an acute, subacute, or chronic form of action, and of local or general significance. That the individual phenomenon of the various forms of a definite surgical infliction often exercises a decisive influence on determining the cause, the importance of the symptoms and signs, the present and prospective complications, the manner of treatment, and the final prognosis, to say nothing of the sequels that may follow, cannot be gainsaid.

Causation.—The causation falls next in order, since the policy of intelligent action requires that the removal of a cause should always, when feasible, constitute the first measure of treatment. The ascertaining of the cause and the naming of a special condition comprehend the taking of a complete history of a case, without a suitable knowledge of which neither can a proper diagnosis be made nor a rational plan of treatment be determined. The expression, the predisposing causes, the exciting causes, and the general and local causes are sources of abundant instruction to the inquiring man, when they are thoroughly interrogated. Then he can, if he wishes, judiciously enlighten the solicitous friends regarding the prognosis and sequels of the event.

Symptoms and Signs.—The symptoms and signs fall naturally into place here, since they precede diagnosis, complications, treatment, and prognosis, as logically as they follow the classification and causation of things. As has already been expressed, symptoms and signs are the language of disease and of surgical conditions; also, each surgical plight has its distinctive form of expression, by means of which it may be known from every other surgical plight. And in many instances it is only by careful and learned methods of comparison of the trifling differences in the manner of expression of the various surgical states that one is able to distinguish each by name, or, in other words, make a diagnosis. By a studious analysis of the differences in the language of infirmities one may become fully as able by this means alone to recognize the name of a definite infirmity as one might be in a similar manner to determine the name of a friend in concealment. By extended comparison of the signs and symptoms of each, one recognizes not only different surgical conditions, but also different phases of each condition, thus developing the power of diagnosis and of prognosis as well. Symptoms are easily and understandingly classed into the local and general symptoms, thus aptly fitting the phases of local and general causes, and founding the wisdom of the local and general plans of treatment already mentioned.

Diagnosis.—The diagnosis naturally follows close upon the heels of the evidence bearing on the identity of the affliction. Therefore by diagnosis one may recognize the disease and properly treat it. Diagnosis may be made either by directly considering the symptoms as applied to a definite surgical state or by a process of exclusion, that is, deciding what it may be by determining what it is not. If the language of a surgical case be not correctly interpreted the resulting errors in diagnosis and treatment may lessen alike the reputation of the surgeon and the longevity of the patient.

Complications.—The consideration of complications ought to precede the treatment, because complications modify disease, and therefore their influences should be considered in formulating the treatment of such cases. In fact, the complications may be of such a nature as to become the major element of the trouble and exercise the dominating influence in estimating the prognosis. One hears so often the statement that "if such or such a complication had not been present the patient would have recovered." In fact, the too frequent lay satirical expression, "The operation was successful, but the patient succumbed!" is often prompted and is kept alive by such occurrences. No person should be subjected to operative interference without a clear conception on the part of the surgeon, and perhaps of the patient and friends, of the contributive lethal importance of both present and prospective complications.

Treatment.—The treatment is properly placed between the series of truths upon which it depends, *i.e.,* the causation, the symptoms, the complications, etc., and the prognosis and sequels, the nature of the former sometimes largely modifying the treatment, while the significance of the latter may be dependent upon it. In the absence of a proper knowledge of the important bearings in a case of the foregoing constituent parts of its investigation, the treatment is misfitting, often void and perhaps even dangerous, especially in distinctively surgical therapeutics. Since it is undeniable that the results of the treatment of surgical conditions appeal strongly to the lay mind and to the conscience of the surgeon, both wise policy and honorable principles demand sturdy investigation of all matters relating to a case that can in any way influence recovery.

Prognosis.—Since prognosis is based upon the combined influence of each of the preceding subdivisions of a topic, the placing of prognosis so that a seeming prophecy may, after all, be only the embodiment of a limited number of rational conclusions appears to be both logically and practically correct. The friends especially appreciate the importance of prognosis, and emphasize their personal interest therein by frequently asking, "Will he get well?" "can the limb be saved?" etc., etc. Wise indeed is he who can so combine his knowledge, discretion and sympathy as to answer satisfactorily such questions without a subsequent loss of personal station and professional reputation.

Sequels.—The sequels, as the word indicates, form the last of the series, here placed for obvious reasons. The ability at the outset of a case to estimate the prospective occurrence and the importance of sequels is present in direct proportion to the attendant's understanding of the importance of the effects of disease and injury, and of their causation, and to his ability to administer proper treatment. The sequels of surgical cases too often humiliate the medical profession and enrich the legal.

It is thus that we begin and may continue the direct instructions in surgery. Already, of course, the students have qualified themselves in the various primary branches for the proper utilization of this plan of advanced training. For every individual topic consdered n lessons or recitation or conference, along didactic text-book lines of action, the use of this synopsis is more or less closely adapted to enable the student to lay for himself an intelligent, orderly and logical foundation, and fit him to tell connectedly, without hesitation, what he may know of any surgical subject thus studied. The special advantages of this line of treatment of a topic are quickly realized by those who later may participate in competitive examinations, or in discussions where they are expected, if not required, to state their entire knowledge of a topic. As it appears to me from this standpoint, the didactic foundation plan of instruction is now substantially laid. In fact, by force of a retentive memory alone one might quite readily gain a degree, provided practical demonstrations of things were omitted in the final examinations.

Now, permit me briefly to call your attention to the next step employed, as we think, to fit the pupil for the professional activity of life. In this instance he is treated as he hopes later to be affected by the exigencies of his professional environments; that is, he is given an opportunity practically to determine the cause and prescribe for the relief of human suffering in the presence of the patient. In this latter method of instruction the patient and the student are brought face to face, the former as the embodiment of a professional problem, for the solution of which the latter is called to apply the principles of action already taught him for the purpose. The student is required, under personal observation or in writing, to ascertain along established lines of investigation a complete history of the case, thereby determining the presence and establishing the significance of the various elements of causation. This investigation discloses the symptoms and signs of the case—its language—enabling the investigators to diagnosticate it—that is, call it by name—to classify it, to determine the presence of complications, estimate the importance of the present and prospective anatomical and pathological changes, and finally logically lead to adopting the best of local and general treatments, thus deciding in a substantial manner the prognosis of a case, also the outlook for sequels and their significance. This, the finishing, fitting course in the plan of surgical teaching is clinical in all essential respects, and, as may be noted, symmetrically fits the foundation structure already laid by didactic effort.

I have simply framed and welded the two together without entering much into details, because of lack of time for the purpose. Whether recitations or lectures shall be chiefly employed in imparting the basic attainments depends, in my judgment, more upon the capacity of the respective participants—the teacher and the student—than upon exercising a hard and fast rule referable to either plan of teaching. In estimating the comparative worth of these plans it should be remembered that not all who lecture impart information; nor do all who listen acquire knowledge. The lecturer ought to fertilize the student mind with important facts, lessening his labors and increasing his interest by judiciously distinguishing the relevant from the irrelevant facts, and emphasizing their respective importance to the educational structure by apt illustrations. The medical tutor may achieve the same aim, provided he have an equal experience and the knowledge befitting the labor. In the latter instance, however, the student, without previous explanation of his tasks, will most likely have given undue time and effort to subordinate facts. It therefore follows that neither plan should be employed to the exclusion of the other, and that each should be practiced in accordance with the several capacities of all concerned.

Finally, permit me to say that, in my judgment, these affirmations are true: (1) That a thorough didactic foundation is absolutely necessary for the proper attainment of surgical knowledge; (2) that clinical teaching fits the student for the intelligent use of didactic facts; (3) that didactic teaching with limited clinical opportunity begets ponderous theorizing with a minimum of fertile practicability; (4) that clinical teaching with limited didactic opportunity begets much of unreasoning imitation with limited logical deduction.

CONTRIBUTION TO THE DIAGNOSIS OF RENAL CALCULUS.

BY FREDERIC BIERHOFF, M.D.,
OE NEW YORK.

WHILE it is no doubt true that by means of radiography we are enabled to diagnose the presence or absence of renal calculus with a far greater degree of certainty than was formerly the case, it is also true that in the presence of a *negative* radiographic result there frequently must remain an element of doubt concerning the absolute correctness of the negative diagnosis, even where the examination was made by expert radiographers. In the latter case the use of the wax-tipped ureteral bougie, or the metallic ureteral sound with a diaphragm at the outer end, as proposed by Kelly, may aid us.

The measure described below has, so far as I know, not been proposed before this, and is intended only as an additional aid in the diagnosis of those cases of pyelitis in which radiography leaves us in doubt as to the presence or absence of a calculus. Its intention is to repeatedly distend the renal pelvis with some bland, sterile fluid, and by this means to bring about movement of the calculus. Where a stone was present, in those cases in which it was applied, the procedure was followed within 24 hours by a distinct hematuria. Where no stone was present there was no hematuria. The method employed was as follows: A good-sized ureteral catheter was passed up into the renal pelvis, and through this tepid, sterilized one per cent. boric acid solution was gently injected until the patient complained of a sensation of pressure in the renal region, usually about 30 c.c. being required. The fluid was then allowed to flow off, and the maneuver was repeated until 250 to 300 c.c. in all had been employed.

Altogether, it was employed in five instances, upon four cases of pyelitis suspected to be due to calculus. In none of these was a radiograph taken prior to the procedure, while each case was controlled by subsequent X-ray examination. In two, as a result, a positive diagnosis of calculus was made, which was confirmed by a subsequent radiograph in one instance, and by operation in both. In the second of these two cases, repeated X-ray examination by an expert radiographer would not permit of positive corroboration by this means. In three instances a negative diagnosis was made, to be corroborated by radiography in two instances, and by operation in the third.

The cases are reported below. For permission to examine and report Cases II, III and IV, I am indebted to Dr. J. Van der Poel, in whose service at the University and Bellevue Medical College Dispensary they occurred. Case I. was kindly referred to me by Dr. McInerny. The radiographs were made by Mr. Caldwell of the above College, to whom I am indebted for the skill and care exhibited in his share of the work.

Case I.—S. F. L., twenty-six years old.

February 26, 1901: In July, 1899, passed a small calculus. About two weeks later cystitis, accompanied by some urethral discharge (no exposure to gonorrheal infection). Preceding this occurrence patient had complained of colicky pains in the left renal and ureteral regions. The urine has remained turbid ever since, and has been at times slightly tinged with blood. Vesical irrigations have produced only temporary improvement in cystitis. About four months ago patient had a similar attack of colic, but passed no calculus. At present urination is increased in frequency, both day and night, and is accompanied by burning and some pain in the perineal region, and followed by tenesmus. The urine is always turbid and at times slightly bloody. No backache; no headache. No loss of flesh. No febrile movement; no chills. No history of preceding gonorrhea or syphilis. Father died of phthisis.

Cystoscopy reveals inflammation over the trigone and lower sphincteral margin. On the left posterolateral portion of the bladder-wall is a large area of cystitis with ulceration. At several other points over bladder-wall, smaller inflammatory areas.

Catherization of ureters: Urine from left kidney distinctly turbid. No albumin; phosphates present in excess. Sediment contains few pus-cells; red blood-corpuscles (probably due to slight trauma of ureter by catheter), no casts, many pelvic and ureteral epithelia. Urine from right kidney slightly turbid, due to red corpuscles (trauma), and a few epithelia of pelvic or ureteral origin. No casts, no albumin; excess of phosphates.

No tubercle-bacilli found in urine of either kidney or bladder, on repeated examinations.

Therapy.—For the present, vesical irrigations; internally, urotropin.

March 29: Treatment has not made much change in the character of the urine, although the other symptoms have abated somewhat.

Cystoscopy shows some improvement in the inflammatory areas. Observation of the activity of the ureters shows that while the right ureter discharges clear urine freely, the left discharges none during the period of examination, although ureteral peristalsis is active.

April 6: Catheterization of left ureter and renal pelvis shows no appreciable obstruction along course of ureter. Urine flows slowly, however, and is about as turbid as the bladder urine. Sediment consists of phosphates, calcium oxalate crystals, epithelia, pus-cells, red corpuscles and myriads of bacteria—no tubercle-bacilli, however. Irrigation of pelvis and ureter with 1-20000 nitrate of silver solution.

Irrigation of pelvis repeated on April 13, 20, 27 (when numerous small shreds came away), May 4 and 11, with 1-20000 solution; May 18, 22 and 25, with 1-10000 solution, during which period of treatment the urine has grown decidedly clearer, and contains fewer shreds. Irrigations continued, with same strength of solution.

June 1: Cystoscopy still shows two ulcerated, inflammatory areas on the lower lateral portion of the bladder-wall.

Irrigations repeated on June 1, 8, 14, 20 and 22, with continuation in the clearing up of the urine.

June 25: The irrigations prior to June 22 had been made without decided distention of the renal pelvis with fluid. That of June 22 was employed to distend the pelvis, as before described. During its progress, it was noticed that the return flow was repeatedly, suddenly, sharply and completely arrested by some body in the renal pelvis, the stoppage of the flow being also accompanied by a distinct sensation to the fingers holding the ureter catheter (the cystoscope was always removed prior to the irrigations, and the catheter left *à demeure* during the continuance of the washing). It was supposed, at this time, that the arrest was due either to some flap-formation, or to a larger, partly adherent shred. This morning, on arising, the patient noticed that the urine was dark-brown and very turbid, and contained clots. Yesterday, on vesical irrigation, the urine was still clear, and no reaction followed. The coloration and turbidity of the urine were found to be due to blood. No "thread-clots" were found in the specimen of the morning's urine brought, nor in that passed for examination. The latter was still darker than usual and turbid, due to the presence of blood. All local treatment was suspended until June 29, and rest, with continuation of the internal treatment, ordered.

June 29: Cystoscopy reveals no cause for the recent hemorrhage. Ulcerations are, on the contrary, smaller than before. Pelvic lavage, as prior to June 22. No hemorrhage followed.

July 11: Cystoscopy shows conditions same as on June 29. Lavage followed by no hemorrhage. Provisional diagnosis of pelvic calculus made.

July 20: Phloridzin test.—Phloridzin, 0.005 in solution, injected, under aseptic precautions, into the dorsal region. After 15 minutes, catheterization of both ureters. Urine collected simultaneously.

Left Kidney: Urine turbid (pus). Sugar, $^1/_5$ per cent. *Right Kidney:* Urine clear. Sugar, $^2/_7$ per cent.

July 27: Radiograph (Mr. Caldwell) reveals presence of a calculus in the left pelvis. Patient referred to Dr. C. N. Dowd for nephrotomy.

Operation by Dr. C. N. Dowd July 28. Palpation of the exposed kidney failed to reveal any calculus. On incision and palpation of the renal pelvis, however, a calculus was detected in the lower portion, and removed.

October 7: After operation the urine did not clear up satisfactorily, and is still turbid, and urination still more frequent than normal. Vesical irrigations begun again.

October 12: Ill-defined pains in both renal regions, along ureters and over bladder during the past week. This afternoon passed a small calculus-fragment.

October 22: Urine much clearer.

November 3: Cystoscopy still reveals the presence of the ulceration on the left vesical wall. The left ureter is seen to discharge turbid urine, the right clear.

December 20: Several attacks of renal colic in past few days, with slight chills and febrile movement. Pelvic irrigation. Urine obtained by ureter-catheter swarming with micro-organisms.

December 22: Reaction following last lavage, temperature rising to 103.4° F. at 4 P. M. Well-marked tenderness over left kidney. Patient admits not having taken urotropin during past month.

Under appropriate treatment, the temperature soon reached the normal and remained there, and the tenderness disappeared.

January 7, 15 and 22, 1902: Pelvic irrigations, with distention; caused no hemorrhage, were followed by no reaction.

January 25: Renal colic, with slight rise in temperature.

January 29: Has been feeling well. Temperature normal since January 27. Neither pain nor tenderness. Urine clearer.

January 31: Renal colic. Urine much more turbid. Yesterday temperature fluctuated between 99° F. (A. M.) and 101.8° F. (9 P. M.). To-day, between 101° F. (A. M.) and 102.6° F. (12 P. M.).

February 1: Temperature ranged between normal (12 M.) and 99.8° F. (6 P. M.).

February 2: Temperature normal (A. M.), 101.2° F. (12 P. M.).

February 3: Temperature 98.6° F. (A. M.), 97.8° F. (6 P. M.), 98.8° F. (10 P. M.).

February 4: Temperature normal (A. M.), 104° F. (6 P. M.).

Patient referred back to Dr. Dowd, for operation, if necessary.

February 10: Nephrectomy by Dr. Dowd. The kidney shows several abscesses.

May 26: Recovery uninterrupted, patient

leaving the hospital March 15. Since then the urine has been slowly but steadily growing clearer. General condition excellent.

That the primary irrigations of the pelvis caused no hematuria I believe to be due to the fact that distention of the pelvis was not employed until June 22. It will also be noted that no hemorrhage followed the distention after the removal of the stone, although the maneuver was repeated.

Case II.—Z., Thirty-four years old.

July 1, 1901: Illness dates from about February, 1900. During this time has noticed pain preceding and following urination. Some pain in the left renal region, especially when walking. Urine said to have been somewhat diminished in quantity, always turbid, and sometimes reddish in color. No history of renal colics. Patient anemic. Turbidity of urine now due to pus. Cystoscopy reveals a normal bladder, with the exception of a moderate hyperemia over the trigone. Catheterization of both ureters. (Unfortunately, neither urinalysis was satisfactorily made in the laboratory.)

July 18: Irrigation, with distention, of left renal pelvis. Considerable detritus comes away.

July 23: Patient experienced, July 19, pain in the left renal region, extending down along the course of the ureter into the bladder and penis. Also slight indefinite pain on right side. Distinct hematuria, lasting during July 19 and 20, accompanied by some headache, anorexia and vomiting. July 21, condition again normal.

July 30: Radiographs (Mr. Caldwell), July 25 and 30, both show three very light, indistinct shadows. Radiographer not willing to make positive diagnosis of calculi.

Diagnosis of calculus in left renal pelvis made as result of hematuria.

August 8: Phloridzin test, with simultaneous catheterization of the ureters, gives the following result: Left kidney—urine distinctly turbid, the turbidity being due to the presence of much pus, isolated red corpuscles, degenerated cuboidal epithelia and a very large number of micro-organisms. Sugar, $^1/_7$ per cent. Right kidney—slight trace of turbidity, due to the presence of isolated red and white corpuscles, epithelia (chiefly round and oval, and presumably of ureteral origin) and micro-organisms. Sugar, ½ per cent.

Subsequent operation by Dr. Brewer revealed the presence of three calculi.

Case III.—E., twenty-seven years old.

May 16, 1901: During the past 1½ years has complained of dull pains extending from the right renal region downward into the vesical, and sometmes to the penis. Following the pain (in from a few minutes to several hours), notices a few shreds or clots of blood in the urine. Pain is relieved by bending toward the affected side. Has lost considerable flesh during this period. Urine turbid. Sediment contains much pus and blood, and some bladder-epithelia. No renal epithelia nor casts.

June 4: Cystoscopy shows the trigone to be somewhat inflamed. On the left lower, right lower posterior and right upper anterior portions of the bladder-wall are circumscribed areas of inflammation, the surface of which is roughened and ulcerated.

July 23: Urine still turbid, in spite of local bladder-treatment. Urine obtained by ureter-catheter from each kidney separately contains few red and white corpuscles, epithelia from ureters; no casts, no renal epithelia, no tubercle-bacilli.

September 5: Conditions still the same. Irrigation, with distention, of right renal pelvis. No hematuria followed.

September 10: Irrigation, with distention, repeated. No hematuria.

September 19: Radiograph (Mr. Caldwell) negative.

Case IV.—M., thirty years old.

August 1, 1901: During the past 2½ years has noticed pains, at times, in the right renal and hypochondriac regions. Also, during the past six months, at times hematuria. This, when it occurred, was neither accompanied nor preceded by pain. Some loss of flesh during the past year. Urine turbid with pus and mucous.

August 13: Cystoscopy reveals slight congestion of the trigone. Catheterization of the right ureter reveals an obstruction (valve or stricture?) in the lower portion. Urine turbid (pus and epithelia). Urine from the left kidney is clear and, on examination, found to be normal.

September 19: Irrigation, with distention, of the right renal pelvis, was practiced on September 3, 10, 14, 17 and 19, no hematuria following in any instance.

September 26: Radiograph (Mr. Caldwell) negative.

It will be seen that, while the ordinary irrigations of the pelvis were, in no instance, followed by hematuria, in each instance where a calculus was later proven to be present irrigation with distention was promptly followed by hematuria; furthermore, that in those cases in which the radiograph revealed no calculus, as also in the first case, after the removal of the calculus, repeated irrigation with distention caused no hematuria.

It appears to me that the probable explanation of the occurrence of the hematuria is that, through the distention of the pelvis, the calculus is dislodged and, most likely, caused to shift its position somewhat; that, as a result of this, a slight abrasion of the tissues follows, with consequent escape of blood. The hematuria is distinct, not merely microscopic.

The present preliminary communication is presented simply as an observation, and not as a recommendation for routine procedure. Whether, when properly carried out, it will give us additional and positive information in all those cases in which the X-ray leaves us in doubt, remains for further observation to show. The results up to the present lead me to hope that it may prove of some value.

717 Madison Avenue, New York.

THE CRIMINAL EQUIVALENT OF INSANITY.

BY WM. B. NOYES, M.D.,
OF NEW YORK;
ATTENDING NEUROLOGIST TO THE DEMILT DISPENSARY.

MORAL insanity, a subject of interest alike to those who study ethics, psychiatry and criminology, has no satisfactory place in the classifications of any of the three. Its real existence is demonstrated by history and the daily reports of the police courts, and to a less extent by the clinical records of insane asylums.

The commonest type of moral insanity is quite as familiar to the general public as it is to the medical profession. The details may be filled in by each individual from his own experience. This type is merely an unusually marked case of the "bad" or incorrigible boy.

Case I.—A., aged sixteen years. The father was alcoholic, and is now dead. The mother is a hysterical woman of wealth, who is now remarried. At the age of ten years A. was merely a "spoiled child," not more troublesome than the average boy of that type. Each successive year he gave his family more and more annoyance from his incorrigible temper. He has always been called a "nervous child." When old enough to go to school he gave no end of trouble to all his teachers from mental backwardness and disobedience. Later he was sent to one and another fashionable boarding-school, but had to be removed from each in turn, either because he "did not get along" or on account of his general misbehavior. He is now a young man of sixteen years, with unlimited pocket-money, developing bad habits rapidly. Recently, when corrected by his mother, he struck her; he frequently insulted her, and once threatened her with a knife.

This case is typical in that, besides failure in moral traits, a certain amount of mental backwardness is exhibited throughout the school years. In a majority of cases boys of this sort show not only mental instability, but also mental feebleness. The gradual increase of violent and dangerous symptoms, in excess of the ordinary passionate outbreaks of a "bad boy," may become evident at the approach of and during puberty and adolescence.

George F. Still, in a recent study of "Abnormal Psychical Conditions in Children," in a series of 90 imbeciles or defectives, from three to twelve years of age, found in 23 decided lack of moral control. These qualities he classified as follows: (1) Passionateness; (2) spitefulness or cruelty; (3) jealousy; (4) lawlessness; (5) dishonesty; (6) wanton mischievousness or destructiveness; (7) shamelessness; (8) sexual immorality; (9) immodesty.

Except in the lower grades of idiocy and imbecility, in which the cognitive relation to environment is absent or extremely defective, there is not necessarily any direct proportion between the moral limitation and the general intellectual limitation. No particular type of idiocy or imbecility can be specially associated with moral defect.

In a series of cases, changes in the moral nature more or less sudden were associated with physical disease, occurring in such varying conditions as tumor of the brain, hemiplegia, meningitis, epilepsy, head-injury and certain infections.

Defective moral control, apart from general impairment of intellect and apart from physical disease, is decidedly uncommon. Such cases may show either a morbid failure of development of moral control, or a loss of already acquired moral control.

The second type of cases illustrating moral insanity includes those in which moral and intellectual characteristics seemed normal during childhood, and in which at adolescence or later some accident or illness changes the mental and moral disposition, or the moral disposition alone, so suddenly and with so little obvious temptation that the name of moral insanity seems justified.

Case II.—This case will serve to illustrate the second class of cases. A young man, E. S., aged twenty-three years, had served for years as a lawyer's clerk, and had been a faithful, earnest young man, active in church and benevolent work. His work was thoroughly satisfactory to his employer, and his salary was steadily increased. In the fall of 1893 he disappeared from home and office for a week or two. When he returned his mental characteristics seemed to have changed. He was said in the office to be "flighty," and could tell no connected story of his week away. A fellow clerk spoke of him as follows: "When I entered the office of Mr. N. I found E. S. employed as clerk. He had charge of the details of the business. He had a most peculiar system in regard to letters. Every letter that went out was not only copied in the letter-book, but was also noted in a book of his own, and from these entered in some larger books, so that every letter that was sent out had six different memoranda made of it. Letters that came in were also noted in some similar manner. These books he kept to himself, and would let no one touch them. He was fond of holding conversations in low tones with some of his fellow clerks or with visitors, and used to assume airs of mystery and importance about the slightest matters. His mind worked slowly except in regard to writing, in which he had been trained. He was always a 'big talker,' boasting of his influence in church matters, and speaking of the number of important affairs he had to attend to. He finally broke down mentally, and was sent by his family to the insane asylum on Wards Island, where he was treated for insanity for two months. He gradually recovered, returned to the office, and seemed to be rational. But after his return he acted queerly. He did not talk much, and was more untidy in personal appearance. He provided himself stationery with the firm name printed on it. A day or two later he stole a check-book with his employer's name printed on the checks and disappeared."

Now begins a very interesting development of this history. Within a few days the owner of the check-book received notice that checks were coming in made out to the order of E. S., signed with a forged signature of his former employer, and a very clumsy forgery at that. These checks he succeeded in getting cashed by friends and clients of his employer, or at large department stores of the city. He left town and went South. His movements could be traced by the stream of forged checks that came in. He went to Baltimore, Washington and Chicago, and then returned to New York. He had evidently prepared an extensive list of all the business friends, correspondents and college friends of his employer in those cities. He had a definite route and an ingenious method. He would represent himself as a clerk or relative of his former employer, and would buy a large order of goods. Presenting a large check, he was invariably given all the goods and all the money he wanted. This scheme was worked until he returned to New York and was caught. He was arrested, but employed well-known lawyers, and after careful examination was sent to Matteawan Asylum for Insane Prisoners.

After his arrest he talked in a rambling sort of way. He said he was "keeping two girls," and that he had "been having a good time drinking." He seemed amused at his own shrewdness in cashing the checks. At his house were found a quantity of imitation office-paper of his former employer, which he had had printed; half a dozen memorandum-books, containing a complete record of his "business;" records of the forged checks and of the goods obtained and sold. He had kept a special set of accounts of the sums of money he had paid to prostitutes and other women under the headings of "Alice," "Maud" and other names.

When arraigned before Recorder Goff he attempted to defend himself, speaking so incoherently that he was stopped. He was sent to Matteawan. A letter from the Medical Superintendent concerning him is as follows. "E. S. was admitted to Matteawan State Hospital in August, 1895, having been charged with forgery in the second degree, but having been found to be insane. At the time of his reception he was extremely talkative; his egoism was greatly developed. He stated that he was a lawyer, a stenographer, that he had studied theology and medicine, and he offered to assist us in any way should we need his services. He rambled from one subject to another in a very incoherent way, and was mentally confused. He claimed that he was Corbett, but was not sure of his identity, stating that some people believed he was Corbett. His flow of words was rapid and incessant. He was at times laughing, winking his eye and shaking his head in a knowing manner. His talk was disconnected, running on a great variety of subjects. His actions and manner indicated an excited state of mind. He was careless of his personal appearance, allowing his hair and clothing to go disarranged. He paid little attention to remarks addressed to him, excepting that he followed directions when told to do anything. He was restless; his physical condition was only fair; his tongue was coated; he was constipated and sleepless. This condition continued for four or five months with varying degrees of improvement. He became more rational, though inclined to be inactive and indifferent. A year after his admission his family tried to remove him, but the Matteawan authorities were not quite ready to discharge him as cured. In November, 15 months after his admission, the indictment against him was dismissed by order of court and he was released in the custody of his friends. He soon left them, and started out in exactly the same line of criminal activity that he had followed before his treatment at Matteawan; the forging of checks and swindling operations were carried on until after a while he was again arrested and, in spite of defending himself adroitly, was sentenced to the Elmira Reformatory for forgery in the second degree.

Personally E. S. was rather shabby in appearance, wore glasses, and had a marked squint. But there was nothing in his appearance or actions but what usually characterizes an honest and faithful young man.

This case is of interest as showing the definite career of a "crook" carried on by a man who, from the standpoint of a student of mental disease, had been previously, or was at the time, positively insane. The attitude of the law in his case is shown by the fact that he was first sent to an insane asylum and discharged after a year, and later sent to prison by another judge for exactly the same offense.

The case presents the problem of criminal responsibility in definite form, and it is to the literature of criminal jurisprudence that one must turn to obtain a clear view of the relations of criminality and insanity. The development of the idea of *partial insanity* as distinguished from total insanity has been gradual, this partial insanity not being considered in the early years of criminal law sufficient to absolve a person from responsibility for his criminal acts, but rendering him worthy of punishment for these same acts. A man's intellect might not be sufficient to enable him to conduct his business affairs and to dispose of his property, yet sufficient to make him quite responsible for a criminal act. When the famous attack was made on the life of George III. a forward step was made in the trial of his would-be assassin. The man was acquitted in spite of his being conscious of the nature of the act before he committed it, and of evident design and cunning in planning and carrying it out.

In 1843 the noted murder trial of McNaughten, who shot the private secretary of Sir Robert Peel, resulted in the acquittal of the murderer on the ground of "the delusion held by the prisoner that the man he had shot was one of a set of men who, he believed, were following him everywhere, blasting his character and making his life wretched."

A statement of the limits of insanity as a defense was made to Parliament by a committee of justices in 1865. In it the following opinions were given: "To establish a defense on the ground of insanity, it must be clearly proved that at the time of committing the act the party accused was laboring under such defect of reason from disease of the mind as not to know what he was doing, or if he did know it, that he did not know he was doing what was wrong."

Much misunderstanding remained on the question of what attitude should be taken towards those who, suffering from a partial delusion as to facts, give way to it; if, for instance, a murder were committed because of the delusion of some imaginary injury to character or fortune. Has a man with an insane delusion the power to think and act reasonably? In other words, mental weakness and moral weakness became differentiated.

In the case of the State *vs.* Wier, 1864, the question of whether the accused had sufficient mental power to control the actions of his own disordered mind is to be noted.

In the United States there still remains a decided difference between the medical and legal view of insanity and responsibility. For instance, in Georgia and many other States, if a defendant could distinguish between right and wrong in the act charged he is responsible, although he suffer from mental aberration as to other matters. In Illinois and Delaware it is held that to excuse crimes it must appear that at the time of the commission of the offense the accused was affected by an *uncontrollable impulse* overruling his reason and judgment.

In the American and English Encyclopedia of Law the theory of responsibility is stated as follows: "The delusions which indicate a defect of sanity such as will relieve a person from criminal responsibility are delusions of the senses, or such as relate to facts and objects, not mere wrong notions or impressions of a moral nature, and the aberration must be mental and not moral to affect the intellect of the individual. A party acting under the influence of an insane delusion with a view of redressing some supposed grievance or producing some public benefit is nevertheless punishable if he knew at the time he was acting contrary to law. To constitute insanity there must be disease which impairs or totally destroys the understanding or the will or both. If the accused were under such defect of reason from defect of mind as not to know the quality of the act he was doing, or under such delusion as not to understand its nature, or not of sufficient consciousness to discern that his act was criminal, or was led by *uncontrollable impulse,* he is not responsible. It must be such as to render the accused incapable of governing his actions at the time, and so controlling as not to be resisted, creating an overpowering impulse to do the act. The circumstances of a person having acted under an irresistible influence to the commission of the crime is no defense if at the time he committed the act he knew he was doing wrong. It must appear that at the time he committed the act, the accused was affected by an uncontrollable impulse to do the act, overriding reason and judgment. A mere uncontrollable impulse of mind coexisting with full possession of the reasoning powers will not warrant an acquittal, for an irresistible impulse does not absolve the actor if at the time and in respect to the acts he could distinguish between right and wrong. The test of responsibility lies in the capacity of the person to commit or not commit the act. It is the capacity to distinguish between right and wrong with respect to the act and the absence of insane delusions respecting the same."

Moral or emotional insanity has no foundation in law; but if a person is not conscious of the moral turpitude of his act, or is deprived of his understanding and ignorant that he is committing an offense, the law will not infer a criminal intent, but in such cases the moral power must be so deranged as to overcome any resistence made by the intellect.

Our study of responsibility resolves itself into a psychological study of human reason, human will and sense-impressions. "It is possible," as Justice Valentine says, "that an insane uncontrollable impulse is sometimes sufficient to destroy criminal capacity; but this is possible only when it destroys the power of the accused to comprehend *rationally* the nature, character and consequences of the particular act or acts charged against him, and not when the accused still has the power of knowing the character of the particular act or acts and that they were wrong. The law will hardly recognize the theory that any uncontrollable impulse may so take possession of a man's faculties and power as to compel him to do what he knows is wrong and a crime and thereby relieve him of all criminal responsibility. Whenever a man understands the nature of an act and knows it is wrong it would seem that he ought to be held criminally responsible for the commission of it, if in fact he does commit it."

At this point the legal and the medical views begin sharply to diverge. The human will, normal and pathological, has been a matter of study for many years. Definite defects or diseases of the will are easily classified, and without attempting to define will, which may be taken in its usual meaning as something fairly well understood, they may be distinguished as follows: (1) Impairment of the will by defect of impulse, varying from conditions of mental sluggishness or irresolution not particularly uncommon to extreme types of laziness and irresolution, or finally to what is known as "abulia," which is a condition where the last vestiges of will-power seem to have disappeared. Patients suffering from "abulia" are suffering from a mental paralysis acting like a definite paralysis of the body. Inhibition is excessive. It may appear very much as a confusional insanity affecting impulses rather than ideas. (2) The will may be impaired through a morbid fear or dread, or through fixed ideas. These become the imperative conceptions so frequently met with on the borderland between sanity and insanity. (3) The will may be impaired through some excessive or uncontrollable impulse which may be instantaneous in its origin, or through something more gradual. This includes passionate outbursts even to the extent of homicide or suicide, sexual misdeeds and other crimes. (4) The will may be limited or practically destroyed by being controlled by the caprices of hysteria or hypnotism. This includes the most important and most modern phase of the study of the human will, and this is the relation of suggestion, which comes either from another person's mind or from the individual himself unconsciously suggesting to himself actions or thought. This last is called autosuggestion. In the mind of the writer it is one of the most potent sources of crime of all sorts, especially of those forms of crime which seem to be unreasonable.

Some of these pathological types of defective will may be better characterized as obsessions, meaning thereby a persistent and recurring idea. These may be: (1) Indifferent, and only troublesome from persistence; (2) those which excite well-marked emotion, such as grief or fear; (3) those suggesting some specific line of conduct, tending to become impulses, such fulminating or impulsive obsessions being ideas occasioned by automatic cerebral activities which are repeated with great frequency and which invade the personality.

These insane impulses result in vice and crime in direct proportion to the defective organization and the development of excessive susceptibility as modified by education and habit. Dipsomania and kleptomania may serve as the best examples of this tendency.

What is commonly called a perverted will, as for instance the sexual side of a man's nature preponderating over all other normal, mental and physical traits, is worthy of attention.

Such a lack of self-control or inhibition may give free rein to any dominant trait of character which may under right conditions be a thoroughly normal trait. It is in this loss of inhibition, self-control or will-power that we note the difference between normal minds and normal actions and minds or actions that are clearly criminal or insane. For example, take a most familiar characteristic, such as carelessness in business, or slight mistakes in judgment in business matters. In its graver form it may lead to defalcation or betrayal of a business trust which brings the individual into the criminal courts; or there may be insane delusions of a business nature, of exactly the type already described in this paper, which will bring him into an insane asylum. Another common trait is ordinary bad temper. In its extreme it produces graves acts of criminal violence, assault or maniacal fury, which practically show insanity. Unkindness or roughness to animal is common in children. In its more marked degree it appears as a cruel delight in torturing, which is one of the most certain marks of a degenerate child. In its worst form it appears as extreme cruelty, as among the more brutal types of criminals and certain lunatics who are monsters of cruelty.

Nothing is more universal than selfishness or vanity. As an instance of inordinate and insane self-esteem we will never see a more startling example than in the case of Guiteau, in whom it was indistinguishable from paranoia. Insane asylums are filled with examples of megalomania or delusions of grandeur. A child is timid or cowardly; a young man becomes a deserter from the army or a traitor, or develops mental depression, melancholia, with a constant fear of all things, or a fixed belief in personal unworthiness.

Plenty of men have fads or minor eccentricities which may be harmless or simply annoying. Exactly the same mental condition, with a slightly modified direction of thought and action, puts a man with little delay into a prison or an insane asylum. The mind may be equally affected in the different grades of actions referred to, but civilized society resents certain actions, and the law rules from the action rather than the mind. So in the end the question must come, Does the offender against law possess self-control, inhibition or will-power enough to obey law and to avoid wrong actions, or is he mentally defective in this special point of will?

All who have followed the practical work in recent scientific study of criminals know how much interest is taken in their physical abnormalities, which we call the physical stigmata of degeneration. The shape of the head, the position or malformations of the ears, eyes, palate, teeth or hands—these are studied with intense interest by all who have charge of criminals and the insane, as giving important hints of a probable hereditary or prenatal origin of their mental and moral defects. Besides these general physical stigmata of degeneracy, which are undoubtedly found with much greater frequency among the insane and among criminals than in any other class of the community, there are what are termed the mental stigmata of degeneracy. Without wishing to lay too great emphasis on a subject where much difference of opinion is permissible, it is well to emphasize these mental peculiarities, to many of which attention has already been drawn. These mental abnormalities or stigmata include many traits found among normal men, possibly among ourselves, such as egotism, vanity, self-conceit, selfishness, jealousy, religious emotionalism and various other traits of character. The individual having an increase of any one of these traits, or, what is also common, the complete lack of self-control or inhibition which readily exaggerates any positive trait of character, readily falls into criminal life, or eventually finds his way to a prison or an asylum. He may or may not have the physical stigmata of degeneration. As a rule the "born criminal" will have both.

Judged from their relations to moral and ethical subjects there are three classes of men: The moral idiot, who has not the sign of a moral concept, abstract or concrete; the moral imbecile, who knows the concrete, but not the abstract, and the type called by French and German authorities the "Debile," who knows both concrete and abstract, but lacks the tone of "ethical feeling." Such a man knows right and wrong, but will not on that account be kept from committing wrong. The term is not far from the commonly accepted meaning of the word "degenerate."

We sometimes use the word "degenerate" as including what the word "crank" was supposed to mean when first introduced during the trial of Guiteau, the assassin of President Garfield. Both words refer to a class of mankind who are on the border-line between sanity and insanity. The word "degenerate" is improperly restricted to those who practise unnatural crimes. It should be broadened to include a type of men abnormal from inheritance in both mind and body. Heredity to-day ignores any definite type of disease. It works alike as similar and dissimilar heredity, passing down abnormal tendencies, but surely and positively some mental abnormality superimposed on physical abnormalities. Mental instability is the invariable condition. Of these unstable or border-land cases more than one type can develop. If the surroundings are criminal they become criminal. They are "suggestible," each and every one. They do not as a rule have strength of mind enough to originate. They readily take up the suggestions of others.

This is the class which Lombroso calls the "criminaloids," of which the tramp is a familiar example. Some tramps are cases of slow and imperfect development who, while of mature years, usually have the mental characteristics of boys that run away from home seeking adventures. They are frequently neurasthenics, restless and unstable. Such periodic vagabondage is occasionally seen in young boys, and is sometimes associated with very marked and causeless depravity. Such children, when suffering from the periodic impulse to run away, will steal money or anything that will please their fancy, will lie and show a complete lack of moral sense. Such a case, quoted by Brower, in the intervals between attacks was docile and well-behaved in every respect. After adolescence he seemed to outgrow the tendency to vagabondage. The recurrence and acuteness of this case emphasizes the relation to insanity, of which it is the criminal equivalent.

Another variety of "criminaloids" are the anarchists, who, as a class, stand near the criminal on one side and the insane on the other. The intellectual side of anarchy, such as it is, lacks logic and reason. The actions of anarchists have the reckless and incoherent element of an insane man's deeds. As individuals they seem to be of two classes—those who show excessive development of certain aggressive traits, and those who are weak and show a lack of self-control to a marked degree. Of the two types, the former are those who "suggest," and who may be men of some intellectual power to influence others. The rest are a flock of rather feeble-minded anarchists, who respond as readily to the suggestions of the master minds as the "subjects" of the professional "mesmerizer" or hypnotist. Mankind as a mass are far more "suggestible" than as individuals, and will do things which as individuals they would never think of doing. In addition to this they are as a rule ignorant of what direct or indirect suggestion really turned their thoughts to one particular line of action.

In conclusion I would recall to your minds the case of E. S., who, as you will remember, was a good boy who became mentally deranged and came back from an insane asylum a full-fledged crook, showing what the writer understands to be the criminal equivalent of insanity.

The history of legal responsibility to the present day was followed, indicating the difference between the legal and medical points of view. That a simple derangement of the human will acts frequently as the only difference between what is normal and what must be classified as criminal or insane, has been indicated. Degeneracy is the broad field out of which all these abnormal types develop, and the mental stigmata of degeneration without doubt furnish the keynote of both criminology and insanity. Suggestion, especially autosuggestion, is the special causal agent, not only of crime, but of many an insane delusion as well.

28 West 61st Street, New York.

APOCYNUM CANNABINUM IN SOME DROPSICAL CONDITIONS.*

BY M. L. HILDRETH, M.D.,
OF LYONS, NEB.

THE great disiderata in dealing with sickness are to first learn what is the matter, and then to find and apply the proper remedy. When the student or young practitioner looks over the vast array of drugs at his command he is delighted in contemplating the bountiful supply, and believes that the only thing necessary is an intelligent selecting of the proper remedy to meet the given case; and the future looks bright and rosy.

As he goes on, making the selections and accumulating experience, he soon begins to realize that "all is not gold that glitters." He learns that either his selections were not properly timed or that the words of the enthusiastic Professor of Therapeutics, who has "almost a specific" for each and every ailment, are as "sounding brass." And the bright halo begins to change to uncertainty, or possibly to gloom. The manufacturing chemist tries to come to his aid and relieve him of the necessity of making the selections. He has only to name the disease and the remedy is forthcoming, and sometimes even the diagnosis is made for him.

At the present time this new factor in the problem is assuming wonderful proportions and activity, and the end is not yet. In the mad search for new remedies and combinations, methinks we are sometimes in danger of overlooking and discarding some of the old friends that are worthy of bettter treatment.

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* Read before the Nebraska State Medical Society, May 7, 1902.

In taking up the subject of *Apocynum Cannabinum* I may be accused of thrashing old straw, but an experience of the past two or three years with its use prompts me to hope that some grains may be found worthy of consideration.

In talking with a medical friend, he spoke with some enthusiasm of his experiences with this remedy, and, having at the time some cases of dropsical conditions which had failed to respond to the more modern and up-to-date methods, I essayed to give it a trial. Not, however, with much hope, but because I was at the end of my string, and for want of something better.

Since then, and after using it in a number of instances, I am satisfied that in properly selected cases it has no equal.

In looking over the standard text-books I find that the literature is very meager. The United States Dispensatory disposes of it with a few lines, Ringer and Hare make no mention of it, nor do several of the other standard authors.

In the edema accompanying the varicose condition, and varicose ulcers in elderly persons, I have found it particularly effective, and this is in keeping with the experiences of others who have used it most. This condition we know to be due to a variety of pathological causes: General debility and lack of tone from any cause; age; cardiac insufficiency, either from valve lesions, exhausting diseases, infections, etc., with capillary stasis. In many of these cases it is an efficient auxiliary to the usual means of relief, such as mechanical supports, tonic treatment, etc.

In a case seen recently, that of an old man very much prostrated by influenza, the legs and feet from the knees to the toes were enormously distended, the veins turgid, and the tissues filled with serum. By the use of two-minim doses every three hours the edema disappeared gradually and steadily, being entirely gone in three or four weeks.

In another case of general anasarca following pregnancy and confinement, in which all of the connective tissues were filled with serum (waterlogged), with profound anemia or hydremia, after hydrogogues with tonics had utterly failed to have any effect, and the case seemed desperate, the same doses, with no other treatment, produced a wonderful change in a very short time, and the case went on to complete recovery. Other cases might be cited, but I deem these sufficient.

How it acts is a question. We know that it slows and steadies the action of the heart, lengthening diastole, increases blood-pressure, stimulates the action of the kidneys, probably by dilating their arterioles, and it seems to have a tonic effect on the vasoconstrictor of the general capillary circulation, lessening the tendency to transudation of serum. In the presence of a lack of arterial tone its effects are almost wonderful. In the cases of valve insufficiency, when compensation is failing, with the usual symptoms, the heart is slowed, cough, from bronchial stasis, lessened, cyanosis decreased, and a general amelioration of all symptoms.

Naturally, there would be a limit to its possibilities in extreme cases, but it has given me more satisfaction in the instances in which I have used it than has any other drug. An enthusiastic faith based only on theory, no matter how attractive the theory, and not supported by clinical experience, is often delusive. But a clinical fact is more valuable in practical results than any theory. In a general way it seems to act like digitalis, but with no cumulative tendencies, and no unpleasant effect when given in moderate doses. To quote from a Russian observer (Grozdinsky): "Seven cases of mitral and aortic insufficiency, with disturbed compensation, in which the fluid extract of apocynum, 15 drops three times a day, was used, great improvement noticed in three days. The cardiac impulse grew stronger, the pulse became more regular, fuller and slower, its frequency in some instances decreasing from 130 or 120 to 50 and 48 beats per minute in 48 hours. The blood-pressure rose; cyanosis and pulsation of the cervical vessels vanished; the area of cardiac dulness increased; the daily quantity of urine increased (in one case it rose from 450 to 2,800 c.c.); the body weight fell, the diminution varying from 13 to 21 Russian pounds: No unpleasant accessory effects from the drug noticed."

The preparation which I have used most is Lloyd's tincture in doses of 2 or 3 minims in water every 3 or 4 hours. When given for some time a tolerance may be established, necessitating an increase of dose. In large doses it is said to cause a sense of fulness and pulsation in the cerebral vessels, with copious watery discharge from the bowels and an increased flow of urine. I have had few of the extreme effects, owing probably to the moderate doses which have seemed to be sufficient. I have never used it in the dropsies accompanying acute nephritis, as in scarlet fever, etc. I would hardly expect it to act as in the more passive conditions.

THE ETIOLOGY OF SHOCK.

BY H. H. STONER, M.D.,
OF HIGHMORE, SOUTH DAKOTA.

It is patent to all observers that the phenomena of shock are manifested through the agency of the sympathetic nervous system. It is therefore consistent, if not incumbent upon us, to look to this system of nerves for an explanation of the symptom-complex which accompanies this terrifying attendant upon the surgical state.

As a groundwork for what we shall have to say as to the relation of shock to sympathetic disturbance let us briefly study the relation which this system of nerves bears to the cerebro-spinal system, the processes of metabolism and the manifestation of the emotions, glance at the symptoms as exhibited in a state of shock, and then ascertain as far as we can to what extent, at least theoretically, the latter is dependent upon the former.

The sympathetic nervous system is composed of neurones closely allied to those of the motor and sensory types of the cerebro-spinal system; in fact, save that the axones of the sympathetic neurones are destitute of a medullary covering, they are identical. Their office is to convey impulses, both motor and sensory; hence this, like the cerebro-spinal system, is made up of motor and sensory neurones. The motor sympathetic tracts have their origin in the cerebral cortex and the spinal cord and are functionally related with the cells of the common and special neurones found in these localities. They are distributed to the involuntary muscles and tissues which preside over the vegetative functions. The sensory sympathetic tracts arise in the tissues which subserve the functions of organic life. Many of them terminate in the spinal ganglia, and it is supposed that many end in the cerebral cortex in direct functional relation with the psychical neurones. Dogiel has recently discovered a neurone located within the body of the spinal ganglia. Its office, as he and many others have interpreted it, is to form a connecting link between the terminal arborizations of a sympathetic neurone and the cell of a peripheral sensory neurone. This neurone—"spinal ganglion cell of the second type," as Dogiel denominates it—arises by a cell whose dendrites are in functional relation with the terminal filaments of a sympathetic neurone and terminates by an arborizing extremity about the cell of a peripheral sensory neurone, thus establishing a pathway of communication for the transmission of impulses from the sympathetic system to the cerebro-spinal system of nerves. Owing to this anatomical arrangement impulses may pass from the bodily tissues over the sensory sympathetic tracts to the spinal ganglia and from thence over Dogiel's neurone to the cell of the peripheral sensory neurones, from whence they may be transmitted directly to the psychical elements of the cerebral cortex. It should also be noted that every sympathetic ganglion which goes to make up the spinal chain has passing into it sensory and motor fibers from the cerebro-spinal system. They accompany the sympathetic neurones in their course and terminate, upon the one hand, in the organs presiding over the vegetative functions, and upon the other, in the psychical precincts. This arrangement provides another path over which stimuli, originating in the bodily tissues, may pass to the psychical elements of the brain, and explains how common sensory impulses, as differentiated from emotional impulses, may reach the brain by a separate route. It should also be understood that reflex centers exist in the sympathetic ganglia, the spinal cord, and very probably if not almost certainly, in the cerebral cortex, by means of which sensory stimuli from the vegetative organs are transmitted to the motor side of the sympathetic system.

Physiologists tell us that the motor sympathetic apparatus is composed of two distinct sets of neurones; namely, accelerator and inhibitory; that stimulation of the former results in an accelerated action, and that of the latter to an inhibited action of the organs to which they are distributed. It is quite doubtful, however, if two functionally separate and distinct sets of sympathetic motor neurones really exist. A more rational view and the one which we shall accept is that one set of neurones serves the double function of acceleration and inhibition, and upon the intensity or quality of the stimulus depends the differentiation of motor activity. It is recognized by all authorities that the mechanism of nutrition is under the control and guidance of the sympathetic system. It is well known that the tissues of the body are constantly undergoing the process of destruction and construction—of waste on the one hand and repair on the other. The sympathetic nervous system is the sentinel which stands guard over this all-important operation and preserves the delicate balance between waste and repair which is so essential to the life of the organism. It may be assumed that in the normal metabolic activities of the tissues the loss by waste is adequately balanced by the process of constructive metamorphosis. It may be further assumed that a stimulus, engendered as the result of a surfeit of nutrient material to a part, is transmitted by way of its sympathetic sensory neurones to their reflex connections with their motor associates, and that these neurones take up the stimulus and transmit it as a motor impulse to its destination in the walls of a blood vessel; the result of which is to constrict its caliber and so to lessen the supply of blood to the part. On the other hand, the stimulus, instigated by an inadequate supply of nutrient material, would naturally be of a different quality. Such a stimulus must necessarily travel over the same route to reach the motor neurones governing the nutrient supply, but it is received by the motor neurones as a strongly contrasted stimulus, and passes out over them as a decidedly different impulse, the effect being to dilate the walls of the blood vessels in which they terminate, thereby permitting an increased supply of nourishment to be poured into the impoverished tissues. Thus this beautiful phenomenon of metabolism goes on, and were it not for the intrusion of outside stimuli the process might continue indefinitely undisturbed. But the relation between the two systems of nerves is such that every common sensory stimulus which finds its way to the psychical domain upsets to a degree, more or less limited, the rhythmical poise of the metabolic process. For as the agitation among the psychical neurones incident to an intense thought or the reception of an intense outside stimulus is disseminated into the areas in which are located the cells of the motor sympathetic neurones, they necessarily become affected and conduct the stimulus to their end arborizations in the tissues, with the consequence that the normal metabolic balance is deranged. Now this metabolic disturbance necessarily gives rise to a secondary stimulus, which, upon reaching the brain, is translated into an emotional feeling; just as stimulation of the visual centers is translated as the sense of sight or that of the olfactory centers that of smell. These metabolic sensations have a character wholly their own; they are as distinct from other sensations as the visual sense, the olfactory sense, the auditory sense or the sense of taste and touch are distinguishable kinds of sensations.

To the metabolic process, then, we must look for the solution of the phenomena of the emotions, and the thesis here laid down posits that the character of the emotional feelings, whether pleasurable or painful, is conditioned upon the physical state of the metabolic process. That is to say, that when destructive and constructive metamorphosis are perfectly balanced no emotional state exists. But if construction is in excess of destruction pleasurable emotional feelings ensue; or, if the tissues are torn down faster than they are rebuilt, the opposite, or painful emotions arise in consequence. A stimulus, transmitted over the vaso-motor system, of barely sufficient vigor to dilate the walls of the capillaries and permit a superabundance of nutritious material to be deposited among the tissues sets up among these tissues a counter stimulus, which, upon arriving among the psychical elements, is translated as a pleasurable emotion. On the other hand, a stimulus, transmitted over these metabolic nerves of sufficient intensity to contract the caliber of the capillary vessels, closing in a measure the portals through which nutrient substances are imported to the tissues produces a diametrically opposite effect. Under such circumstances the stimulus induced by chemical disintegration of the tissues, upon arriving in the psychical precincts, incites a state of consciousness which we interpret as a painful emotion.

Now that we have considered the relations which exist between the sympathetic nervous system, the process of metabolism and the manifestation of the emotions, let us refer to the symptoms of shock and see if they are not, one and all, explicable by an application of the theory that they are caused by perverted activity of the sympathetic system of nerves.

Shock, as it is usually met, presents itself under one of two clinical forms. First, it may appear attended with great excitement, and second, with utter prostration. In the first form the patient tosses from side to side of his bed and begs to be rescued from some horrible doom which seems to be impending; he complains of a sense of suffocation; his face is flushed and his eyes stare; he calls loudly for water, which is no sooner swallowed than it is vomited. The jactitation gives way to tonic muscular spasm, hiccough and convulsions. Finally, overcome by exhaustion and an awful sense of bodily anguish, the patient dies. In the second form, that of prostration, the sensibilities are stunned into almost complete indifference; the face expresses anxiety; it is pinched and ashy pale; the lips are pallid; the nails are blue, and the skin, especially that of the hands and face, is bathed with large drops of cold, clammy perspiration; the eyes have a meaningless stare and the pupils are dilated. Vomiting occurs quite constantly. The temperature falls decidedly below normal, and the pulse is rapid, weak and thready. Respiration becomes little more than a sigh. The muscular system is relaxed, and the sphyncters are paralyzed. All the functions of organic life are in abeyance and many of them are for the time suspended. Could a more faithful picture of sympathetic disturbance be portrayed? Every symptom is indicative of a profound impression operating upon the system of nerves which preside over the vegetative functions. The emotional feelings, the flush or pallor of the face, the thirst, hiccough, apathy, sweating, vomiting; the disturbance of secretion, respiration, circulation and temperature all point so indubitably to derangement of the sympathetic nervous system that little room for doubt is left open for consideration. It is noteworthy that blows over the sympathetic plexuses or upon organs richly supplied with sympathetic nerves produce a condition of shock identical with that of incised or lacerated injuries. The knock-out blow of the pugilist, or kicks upon the testicles, or pudendi are cases illustrating the point. Operations upon the generative organs, whose functions depend upon the wealth of their sympathetic supply, often produce a condition of shock out of all proportion to the degree of injury produced. This can be accounted for in no other way than by the injury imposed directly upon the sympathetic nerves. All surgeons recognize the fact that abdominal operations are especially productive of shock. This does not occur in consequence of the length of the incision or the degree of injury to the parietes, for the tissues of other parts of the body—the extremities, for instance—withstand similar attacks with apparent impunity. The cause which gives rise to shock following abdominal operations is undoubtedly to be found in the chilling to which the sympathetic nerves of the viscera are subjected. It is well known that refrigeration of the common sensory and motor nerves deranges in a marked degree their functional activities, and one would naturally expect the sympathetic system to respond in a similar manner. The difference, however, is shown in the final effects which such a stimulus evokes. In the case of the common sensory neurones, chilling produces a sensation of cold, while with the sympathetic sensory neurones the metabolic disturbance incident to the lowered temperature culminates in a condition of shock. Hemorrhage is another fruitful cause of shock. Under this circumstance, the stimulus which induces the shock originates directly in the bodily tissues. Owing to the sudden withdrawal of the blood supply retrograde metamorphosis immediately ensues in all parts of the body, and the stimulus—the cry of the starving tissues—incident thereto, suffices to set up the sympathetic disturbances. Prolonged anesthesia is oftentimes alone sufficient to induce a profound degree of shock. Anesthetics undoubtedly produce their effects upon the cerebro-spinal system of nerves by paralyzing the processes of the individual neurones, so that stimuli are precluded from passing from one to the other to their destination. If such is the case, then, the effect must necessarily be identical upon the sympathetic system. If the sympathetic tracts are incapacitated for the transmission of the stimuli to which they normally respond the process of metabolism must of necessity suffer in consequence, and the result is precisely what occurs when the volume of blood is reduced by hemorrhage.

Why shock should be manifested at one time by great excitement and at another by torpor is explicable upon the assumption that these symptoms are produced by the effects made upon the cerebro-spinal nervous system. In that condition expressed by excitement, the metabolic stimulus is such as to affect the psychical apparatus in a manner capable of producing an emotional state manifested by excitement, jactitation, etc., while in that of torpidity, the metabolic activities are so far retrograded as to nearly destroy the tonicity of the cerebro-spinal system. In the latter case the patient lies in a state of collapse absolutely indifferent to either internal or external impressions.

The theory adduced readily explains the flush or pallor of the face. The blush of shame and the pallor of fear are phenomena of every day observation. These effects are certainly produced through the agency of the sympathetic system, and the same agent that produces the blush of shame is undoubtedly responsible for the flush which attends the state of shock; both are due, no doubt, to an impression acting upon the vasomotor system which dilates the walls of the capillary blood vessels. The evidence is conclusive that the pallor of shock and the pallor of fear have likewise a common cause, but here the impression made upon the vaso-motor nerves is such as to constrict the capillaries and drive the blood from the surface. Sweating is another symptom which attends some of the emotional states and that of shock. The perspiration attendant upon a confused state of the mind and the perspiration of shock are probably expressions of the same cause. It is quite clear that the sweating of emotion is manifested through the agency of the sympathetic nervous system, and if this be true, the inference is allowable that the same phenomenon as it attends shock has a like origin. The sensation of normal thirst arises in consequence of the abstraction of water from the bodily tissues. This symptom, as it expresses itself in shock, is explicable upon the same premise. If the shock be due to hemorrhage the dehydration of the tissues is direct. If the shock be of traumatic origin, the abstraction of water from the tissues comes about in consequence of the constriction of the capillary blood vessels to an extent sufficient to deprive the tissues of their wonted fluid supply. The fall of temperature occurs as the result of the retrograde metamorphosis. The normal heat of the body arises as the result of the metabolic changes which take place in the tissues. It follows as a necessary corollary that if the process of metabolism is inhibited in shock the temperature should fall in proportion. This is what actually takes place.

It would seem unnecessary to go further into the detail of symptoms. Enough has already been said, we believe, to prove that a direct relation exists between shock and the activities of the sympathetic nervous system. The evidences are conclusive, also, that shock may result either directly from injury to the sympathetic system, or indirectly as a result of disturbed metabolism.

HOW MUCH DO WE POSITIVELY KNOW ABOUT TUBERCULOSIS? A PLEA FOR THE TUBERCULOUS.

BY DR. F. C. McGAHEY,
OF OGHEE, NEVADA.

The effort to alarm the public in regard to the infection of tuberculosis has succeeded beyond expectation. The consumptive immigrant finds his entrance to this country barred. A family of a half a dozen children, a healthy father and a consumptive mother—or, perhaps, a consumptive child—think what the ruling of the Treasury may mean in these cases! A consumptive will not come to this country alone; he comes under the protection of his family. And when he is shut out from this country what are the rest going to do? For years it has been the custom to send the tuberculous to high altitudes or the coast. But the people there are alarmed. They do not want the consumptive in their homes, their streets and parks—he is too dangerous. In sanatoriums, too, the consumptive finds himself under the strictest rules in order to guard other inmates against infection. Ah, you poor sufferer, life was hard enough for you before the era of the microscope; now you find it difficult even to secure a place to rest your weary body; welcome is extended hesitatingly to you and you are becoming a social outcast! It is easier to start an alarm than to quiet it. Medical errors die very hard among lay people.

The medical profession is responsible for this alarm, and as the misery called forth by it strikes a large class of sufferers severely, it ought to be sure, very sure that its teaching is beyond error. Hence, how much do we positively know about tuberculosis?

We have agreed to call diseases in which we find the tubercle bacilli, tuberculous. From this agreement we have jumped to the conclusion that the bacilli are the prime cause of the disease, and as tuberculous patients disseminate bacilli, they spread the disease likewise. I concede that diseases, such as small-pox, measles, scarlatina, gonorrhea, syphilis, enteric fever, malaria, etc., are primarily caused by their micro-organisms, for the reason that everybody if inoculated is liable to these diseases at least once in his life, regardless of the condition of his health. An individual may be exposed to these diseases several times without contracting them and nevertheless fall a victim to them at some other time. Immunity debarred, this is most likely due to the fact that inoculation did not take place at the first exposures. It may happen that an individual is not at any time in his life susceptible to vaccine, but in many hundred cases of vaccination we have not recorded one such an occurrence, nor do I recollect one such an instance in literature. But tuberculosis occupies a different place.

The following observations will show how much actual danger there may be from infection in tuberculosis: A government boarding school with an enrollment of 80. A boy infected with tuberculosis. Not reported until in the advanced stage when his temperature daily rose to 104 degrees F. He was sent home, where he died about five months later. No precaution had been taken at the school and no other case occurred at that time.

A government boarding school with an enrollment of 180. A girl was kept here until the last stage of consumption. No precaution taken. No other case contracted tuberculosis though she had been a source of infection for many weeks.

A government boarding school with an enrollment of 100. Two boys were brought to the hospital in the last stages of consumption. Not detected by employees before. No other case reported from that school.

These pupils were Indians. The Indian is very susceptible to tuberculosis. The annual death-rate from this disease at schools is about 5 per cent. The children grow up at their homes in an atmosphere filled with tubercle bacili. Most of them manage to live until puberty and some a little longer. The boarding schools seem to be more destructive to them than the bacillus itself. Of the deaths reported from this reservation in the last nine months more than half were school-children dying of tuberculosis; the other were old people with other diseases and a small child, cause unknown.

As to white people, I know of at least three families, numbering about 25 persons, in whom a mother and a grandmother died of undoubted pulmonary tuberculosis after years of illness. None of their relatives contracted the disease and no precautions were taken.

These facts undoubtedly prove that it takes more than an atmosphere loaded with bacilli to produce the disease.

Is a tendency to tuberculosis inherited? The history of the Indians answers "no" and also "yes" to this query. The grandparents of the present generation are usually hale, hardy people with no tendency to the disease; their children have already considerable susceptibility to it, while it is only a small percentage of grandchildren that survive the age of 20 without tuberculosis. Here we have a people, in whom the various changes to which civilization subjects them produces a high susceptibility to the disease.

We know that among whites not all children of tuberculous parents die of the disease, nor do all children of the non-tuberculous escape it. Neither do all persons of a tuberculous type contract the disease, or those of a non-tuberculous type remain free from its ravages. Some people weakened by disease are attacked by it; others, seemingly equally feeble, remain non-infected.

The fact is, we are ignorant as to the cause that makes an individual susceptible to tuberculosis. It seems that our energy could be expended to better purpose in finding the cause than in crying about infection and making still more miserable the life of the person who is under the bane of the disease, often for many years.

People with syphilis and gonorrhea have been treated by us with so much consideration that we have never thought of instructing those around them how dangerous they may be. These diseases are more infectious than tuberculosis as they are contracted by those having no special susceptibility. Nevertheless we have trusted to the patient that he would take the necessary precaution. This same consideration ought surely to have been extended to the innocent sufferer of tuberculosis.

I am not combating the use of any antiseptic measure for the prevention of the disease. I only fear that often our directions accomplish very little or nothing at all. Boiling the sputum for at least 15 minutes—better longer—and burning it up entirely are the only sure ways of destroying the tubercle bacilli. Antiseptics in general do not penetrate the mucus unless a solvent for the mucus is added. Table utensils also ought to be sterilized by boiling. I doubt if we succeed in keeping rooms free from bacilli with all these precautions.

Ordinances against spitting are very good, but far better would be an ordinance which exacts a heavy fine from any woman wearing on the street a skirt not at least two inches from the ground. That would be a protection against other infections as well. Then for the sake of general antisepsis let us make a raid against public practices which are sadly out of place in this era of cleanliness. Separate cars for consumptives may be desirable, but still more desirable are leather coverings for seats instead of plush which absorbs all and keeps all, and linoleum for covering the entire floor. Then the car could be cleansed with an antiseptic solution after each trip. This would result in some protection against tuberculosis and against other diseases at the same time. Let us teach that plush and carpets ought to have no place in any public building, whether church or theater. Let us also demand that those whom we think susceptible to tuberculosis shun all crowded, ill-ventilated, soft-cushioned and carpeted places.

A great many antiseptic measures are much needed in our public schools and these are also the places where practical instruction in antiseptics ought to be given.

Whatever good our labors in preventing infection may do, an equal if not greater amount of good could be done in tuberculosis by discoveries that would enable the profession to diagnose the "susceptibility" to this disease with unerring certainty.

AN INSTANCE OF ACCIDENTAL VACCINATION.

BY GEO. W. KOSMAK, M.D.,
OF NEW YORK:
ASSISTANT SURGEON, OUT-PATIENT DEPARTMENT OF THE PRESBYTERIAN HOSPITAL.

It has been observed that typical vaccinia pocks may appear in individuals at a point remote from the site of the original inoculation. Such are cases of true autovaccination, the virus being conveyed by finger-nails which had come in contact with the serum from a ruptured vesicle and then introduced the material at some other point during the act of scratching. This condition is most often seen in small children, presenting a facial eczema or an intertrigo of the groin. The accidental transmission of vaccinia from one individual to another is less often seen, and the comparative rarity of this condition may lend some interest to the report of the following case: A mother brought her child to the dispensary, stating that she herself had been vaccinated some four weeks previously. The pock ran an apparently normal course, and was not protected by any form of dressing. Her little girl of fifteen months slept in the same bed with her. About two weeks ago she noticed a small red spot on the baby's cheek which has gradually assumed its present proportions. Examination of the strong, healthy child showed a typical vaccinia pock, corresponding to about the tenth day, on the middle of the right cheek, with some surrounding induration and a slight edema of the lower lid. There appeared to be a slight infection, and the neighboring lymphatic glands were somewhat enlarged and tender. At the time of examination no signs of any skin-eruption were present, and the child undoubtedly inoculated itself through the healthy skin, probably by scratching. The vaccinia ran a normal course, but a rather unsightly scar on the cheek will remain as a result of the child's efforts.

MEDICAL PROGRESS.

MEDICINE.

Hepatic Cirrhosis.—An analysis with the object of determining how far the most marked symptoms which have been attributed to hepatic cirrhosis were due to the anatomical condition of the liver per se, and how far they are dependent on associated changes in other organs, has been made by G. G. Sears and F. T. Lord (Bost. Med. and Surg. Jour., September 11, 1902). An attempt was also made to determine in what class of cases surgical interference, whose only object is to overcome the portal obstruction, was most likely to prove successful. For this purpose they studied 78 cases in which the proper histological diagnosis had been made after autopsy. Their conclusions are as follows: Hepatic cirrhosis is, in a majority of instances, but one expression of the effect of a systemic poisoning. The degenerative changes in other organs are to be regarded as part of this general process, rather than as complications. Dilatation of the vessels may have some effect as a compensatory mechanism, but is rarely adequate to prevent ascites. Persistent jaundice and hemorrhage from the digestive tract seldom occur until the connective tissue formation is well advanced. Hemorrhage is usually due to some gross lesion, in most cases an esophageal varix. Ascites occurs as a late symptom in all classes of cases, but its early appearance is usually associated with some form of peritoneal inflammation. Continuous fever was never found, except in the presence of complications. No evidence was found to show that the course of the disease was not always progressive, but a high grade of cirrhosis was often reached without incapacitating the patients. Surgical treatment may be indicated in a very small proportion of cases, but conclusive evidence is still lacking to show that the ascites in the cases successfully operated upon was due to hepatic cirrhosis and not to coincident conditions.

Turpentine and Perityphlitis.—During the course of his research as to the use of pyogenic medicines, M. Mayer of Simmeru (Sem. méd., No. 34, 1902) was led to experiment as to whether or not the external application of the substance, and in particular of the essence of turpentine, might not influence favorably suppurative processes. One investigation in this field, in a case of purulent pleurisy, was crowned with great success, and then on several occasions the author used the essence of turpentine as a resorbent and antiphlogistic. It is, however, in perityphlitis, before the stage of exudation, that the medicine in question appears to give most excellent results. This author has used it in 12 such cases. He prescribes it, either in the form of the essence, or of the essential oil, in a dose of three drops, repeated two to four times a day. The medicine may be given in ether, or incorporated in the yolk of an egg; or better, since the stomach does not bear it well, as an emulsion in the yolk of an egg. If there is an exudate around the appendix, he finds it well to combine internal and external exhibition of turpentine. The internal use of this remedy must be stopped if any trouble appears with the kidneys or lungs. This author found, in one man who had signs of tuberculous disease, a frothy and bloody expectoration appearing after the use of turpentine for some time.

Guaiacol and Mumps.—The good effect which applications of guaiacol give in the treatment of inflammations like orchitis induced E. Grande of Micrastro (Sem. méd., No. 34, 1902) to test it for antiphlogistic and antiseptic purposes in epidemic parotiditis. He uses it as an ointment, containing five per cent. of the drug, and applies it once or several times a day over the whole region of the affected gland, which he covers with some form of cotton dressing. His series has reached 12 cases, and his results indicate that the swelling decreases at the second or third treatment, the pain and discomfort in chewing and swallowing likewise ameliorating. Unlike the scrotum, the face does not seem to suffer from the drug. He has not seen such secondary results as eczema. He attributes these good results not only to the analgesic action of guaiacol, but also the antiseptic influence of it, exercised perhaps quite directly within the mouth by absorption from the face.

Genesis of Pulmonary Tuberculosis.—G. Schmorl (Münch. med. Woch., August 19, 1902) directly opposes the view of Ribbert that apex infection is hematogenous and not aerogenous in origin; nor does he agree with him in his views concerning miliary tuberculosis. Nobody who has performed autopsies on cases of acute miliary tuberculosis will fail to notice the presence of large caseous foci in the larger veins, arteries or lymphatics. If the capsule of these be pierced by means of a pin, the liquid contents will readily exude, showing that it is under pressure; and if mixed with water they will yield a uniform suspension, each drop of which will teem with bacilli, either singly or in groups. It is clear that perforation of one of these foci into the blood-stream will mean a terrible catastrophe for the organism. The hematogenous origin of apex tuberculosis presupposes an absorption of the bacilli by means of the lymphatics, and their return to the apex through the blood, but it is hard to see why they cannot develop at the original site without going through this route, and then, in cases where the infection was unquestionably through the circulation, the apices were more often found free than involved. A careful microscopical examination will often show that the starting-point is the bronchial mucous membrane, and this also favors the aerogenous theory.

Hetol in Tuberculosis.—Only favorable results have been seen after the use of hetol in tuberculosis by D. Katzenstein (Münch. med. Woch., August 19, 1902), provided it is employed in early cases and the ordinary hygienic measures can be resorted to as well. There is a rapid improvement in the subjective symptoms, a disappearance of fever and night-sweats, a diminution of cough and expectoration and an increase in weight. Hemoptyses never interfered with the treatment. The injections are best made into the middle third of the triceps, 20 c.c. of a sterile solution being used at a time. The number of injections varied from 20 to 72, and the time of treatment from two to six months. The patients can easily call on the physician in his office.

Subcutaneous Injections of Arsenic in Phthisis.—From an observation of 10 cases, H. Cybulski (Münch. med. Woch., August 19, 1902) concludes that arsenious acid temporarily reduces the temperature in phthisis. It also increases the body-weight and stimulates the appetite, though not to the same degree as when taken per os. Diarrheas, albuminuria and direct action on the heart could not be noticed, and though the subjective symptoms abated considerably, no appreciable cessation of the process in the lungs could be found by examination. The mixture employed was a solution of sodium arseniate, two decigrams in 20 grams of one-half per cent. solution of carbolic acid, of which first 0.1 c.c. is injected, and the dose gradually increased until a Pravaz syringeful is used. If the solutions are employed warm, pain is not noticed.

Persistent Hiccough.—The essential feature of hiccough is sudden involuntary contraction of the diaphragm, and simultaneously with this occurs a closure of the glottis. As to predisposing causes, W. McDonald (Albany Med. Ann., September, 1902) says that any case in which there is increased nervous irritability might be easily complicated by more or less persistent hiccough, and that any local disorder which might extend or become contiguous to any portion of the phrenic or its centers, or which might be immediately related to afferent nerves, such as the gastric branches of the vagus, may be said to offer special liability, while abnormal conditions in certain distant parts may constitute a predisposition by way of reflex action. Of general conditions, hysteria and neurasthenia are most common; of local, preexisting inflammation of the pleura or peritoneum, and of the reflex, diseases of the organs of generation and digestion. Alcoholic debauches frequently are followed by attacks of hiccough. The characteristics of individual attacks are extremely variable, and in some are so prolonged as to cause considerable exhaustion, and the prognosis depends, of course, upon the exciting cause. If there is anything humorous in the consideration of the subject it is to be found in glancing over the list of remedies which are supposed to have special efficacy, where nearly every drug is mentioned. Rational treatment, however, is directed at the cause. If this cannot be discovered, means are to be resorted to having an improving effect upon the whole economy, such as mental and physical rest, massage, electricity and general hygienic measures.

Relation between Exercise, Fever and Albumosuria in Phthisis.—A rise in temperature after exercise has been regarded by some as pathognomonic for tuberculosis, but G. Schroder and T. Bruhl (Münch. med. Woch., August 19 and 26, 1902) show that this may also occur in the healthy, even to a more marked degree, but that here the temperature reaches the normal more rapidly. It was interesting to determine whether this rise is to be regarded as a real fever, and to this end the urine was tested for albumose, but found absent in all except advanced cases with cavities where the diazo reaction also occurred. It is probable that the increased temperature is simply a local hyperthermia induced by the increased work of the muscles of the lower extremity. It is not seen in oral measurements, hence these are preferred as being more trustworthy.

Diagnosis of Tuberculous Predisposition.—By means of a special apparatus, the thoracodynamometer, G. Sticker (Münch. med. Woch., August 19, 1902) is able to measure the strength and endurance of the muscles of inspiration, and thus to judge of the tendency of the lungs to become tuberculous. The strength of inspiration in healthy persons from nineteen to twenty-five years, was found to correspond to 32-46 kilograms for a maximum trial, and 30-44 for an endurance trial. In a number of suspicious individuals, sent to the clinic chiefly for anemia and without any direct evidences of tuberculosis, the figures 22-33 and 18-26, respectively, were obtained, and a number with distinct tuberculous lesion gave as values 19-31 and 17-24 kilograms.

Changes in the Spinal Cord in Anemia.—From a study of this subject the following conclusions are drawn by F. Billings (Bost. Med. and Surg. Jour., September 4, 1902). There is a well-established relation of diffuse cord-degeneration with pernicious anemia. It seems highly probable that the hemolysis and the cord-changes are due to the same toxin. While the source of the latter is unknown, the fact that gastro-intestinal disturbance is so common in the disease would lead one to suppose that it is of intestinal origin. The diffuse degenerations of the spinal cord which occur in conditions without pernicious anemia do not appear to differ essentially from those of pernicious anemia. It is possible that a common blood-circulating poison exists which may extend its force upon the blood in one individual, upon the nervous apparatus in another, and coincidently upon the blood and spinal cord in others.

Chronic Glossitis.—The treatment of chronic glossitis by the application of nitrate of silver or chromic acid associated with electricity is comparatively a new method. M. L. Ravitch (Sem. méd., No. 25, 1902) has successfully treated the various forms of chronic glossitis by this procedure. He has applied it to neucoplakia, dissecting glossitis and other well-known forms, which always resist the usual forms of treatment. This author cauterizes the tongue with nitrate of silver or chromic acid, and adds the action of a galvanic current. The following is the manner of procedure adopted by him: He begins by bathing or washing the tongue with either a 15 per cent. solution of nitrate of silver or a five per cent. solution of chromic acid. Then the patient holds in one hand the positive electrode, while the physician passes the negative electrode over the parts which have been cauterized. The duration of the electrical application is 10 to 15 minutes. It produces an abundant flow of saliva, which may be received with convenience upon a large wad of absorbent cotton held at the mouth. Under the influence of this treatment he has found that the pains become less, and as a rule the tongue slowly returns to its normal condition. The number of treatments necessary to reach a cure ranges between 20 and 30 even when the attack is severe.

Tuberculous Meningitis.—When tuberculosis affects the meninges the patient is in a serious condition. R. Tribier (Sem. méd., No. 30, 1902) has been using in the prodromal period of this disease repeated vesication of the scalp. This method is not new, but has for many years been looked upon with disfavor. This author, however, regards it as capable of causing a cure, provided it is used before there is the least symptom of contracture or of weakness of the muscles. He begins by shaving the scalp and then applies a vestigating, dry dressing. One of the former reasons for rejecting this method of treatment was the fear of causing suffering to the patient. According to the experience of this author, such applications are hardly painful. Albumin in the urine, far from constituting a contra-indication, is apt to disappear after its use, along with other symptoms of the disease. He has now employed this treatment with 12 patients whose ages ranged between two and eighteen years, and in whom the possibility of hysteria was ruled out. Certainly the prodromal stage of a tuberculous meningitis is a very uncertain matter, and must at best be based upon mere probability. In one of his patients the same symptoms, appearing a year later, were not treated by this method, and death supervened in a short time. At the autopsy the diagnosis was proved.

Beer-Yeast and Pulmonary Disease.—The treatment of certain affections of the lungs in old age by means of beer-yeast was discovered about two years ago by P. Marie, who noticed rapid cure of a grave pneumonia under the influence of this organism, which had been prescribed against a furunculosis which accompanied the pneumonia. The result induced him to treat with it all cases of pulmonary inflammation. Other contributors to this matter are J. Lardier and Toubet (Sem. méd., No. 30, 1902). These observers have found that beer-yeast is also a valuable means of treatment in both acute and chronic bronchitis in the aged. It is true that in acute bronchitis, the substance in question, employed to the exclusion of all other medicines, would remain without effect upon the progress of the disease during the period of activity. When, however, the disease has begun to recede, and the patient to expectorate, the influence of the yeast begins to be apparent. For this purpose the dry yeast is used in a dose of two or three teaspoonfuls a day and, as a rule, causes a distinct decrease in the amount of expectoration within two or three days, and a cure within two or three weeks. In cases of bronchial catarrh of long standing the use of beer-yeast brings about a rapid decrease in the amount of bronchial secretion, and then a complete cure in two or three weeks. In order to be sure of the result it is wise to continue the medicine for another week after the symptoms have ceased. They also recommend that old persons predisposed to affections of the bronchi should take beer-yeast for a month or so at the beginning of winter, as a means of preventing trouble with the lungs. These authors have also used beer-yeast in treating pneumonia. Like Marie, they have found it very efficacious, not from the beginning to the end, but rather at the time of defervescence. At this period of the disease it seems to have the effect of preventing the chronic condition of the lungs which so commonly occurs in the aged. The yeast is administered either dried, mixed with sugar and water, or with sugar and milk, or in the form of pills when the taste of it is disagreeable to the patient. The drug exercises not only a medicinal but also a tonic effect.

Semeiological Value of Hematuria.—The interpretation of hematuria and its significance in the determination of disease of the urinary system is the subject of a paper by E. Minguez (Rev. Med. Cir. Prac., August 14, 1902). He finds that hematuria, occurring without pain, polyuria, dysuria, or other accompanying symptoms, may be regarded as pathognomonic of neoplasm; especially if, after a variable period of time, such hemorrhage recur as an isolated symptom. But little aid in diagnosis is obtainable from the color of the urine in hematuria, as it depends solely upon the quantity of blood present; but if such a specimen be allowed to stand till its abnormal elements have settled to the bottom valuable information may be obtained from examination of the sediment. This may be purulent, blood-streaked, or may contain characteristic blood-casts of the ureter or renal tubules. If hematuria be accompanied by pain in the region of ureter or kidney, and followed by elimination of clear urine, one of these organs may be considered as the site of hemorrhage; pain being attributable to increased renal tension, and subsequent clear urine to temporary obstruction of the affected organ, allowing passage of urine solely from the healthy side. If the blood be passed in the first part of micturition its source is probably the prostate or urethra; if in the last part, the bladder. If the blood be evenly mixed in the specimen diagnosis of its source is more difficult, though bloody molds of the ureter or renal tubules may indicate the bleeding-point. As to the cause of the hemorrhage, a neoplasm or prostatitis may give rise to bleeding from the prostate, rectal examination determining the influence of this organ in the production of hematuria. Hemorrhage of the bladder may occur from inflammation, retention, tumor, or calculus. If, after perfect repose, blood disappear from the urine, and if motion cause reappearance or increase of hemorrhage, the passage of blood may be considered as due to traumatism of the bladder-wall from calculus. If hemorrhage occur as an isolated symptom, and be not influenced by rest or motion, it is attributable to neoplasm. Cystitis, which gives rise to hemorrhage, is blennorrhagic or tuberculous. An acute course, pain and pyuria are diagnostic points in the former condition; less abundant flow of blood, decreasing in amount as the disease advances, and a subacute course characterize the latter. Renal hemorrhage is ascribed to tumors, tuberculosis, nephritis, hemophilia, paludism and calculus. The diagnosis of such hemorrhage presents many difficulties, and general indications must be taken into consideration. The influence of rest and motion will assist the diagnosis of calculus as a factor in the production of renal hemorrhage. This etiological and diagnostic review is given by the author apropos of a vesical papilloma whose clinical course illustrates the diagnostic points presented by him.

Relation of Malaria to Zoster.—After making careful investigations upon about 40 cases of zoster, I. MacF. Winfield (N. Y. Med. Jour., August 2, 1902) has ascertained that the plasmodium malaria may be found in the blood of about one-half those cases. Very few gave typical histories of malaria, but the symptoms in most instances pointed to an irregular fever of low grade, causing considerable annoyance and prostration. We do know that a zoster-like eruption often accompanies lesions of the nerves or the root ganglia, and that poisoning from coal-gas, arsenic and the like may be followed by zosteroid eruptions. Although, of course, it has not yet been proven, the author suggests that the malarial parasite may cause an inflammation of the nerve ganglia resulting in the zosteroid manifestations.

Clinical Cases of Gas-Poisoning.—Since attention has been called to the enormous leakage of gas in our city, and the disastrous results which may follow constant exposure even to small amounts of carbon monoxid, several cases of an indefinite nature, yet presumably due to water-gas, have been reported. S. LLOYD (N. Y. Med. Jour., August 23, 1902) has observed two series of cases which developed in houses where there was subsequently found to be a marked leakage of gas. The patients complained of headache, malaria, an afternoon temperature sometimes running up to 102° F., and presented an anemic condition, which did not respond to ordinary methods of treatment until a change of residence was made. The cases seem to resemble irregular forms of typhoid or malaria, but the blood shows only a simple anemia. No doubt many of the unexplainable instances of chronic anemia with which the physician is called upon to deal are due to this cause.

Ankylostomiasis in Cuba.—An instructive case is reported by J. GUITERAS (Rev. Méd. trop., vol. III, No. 7, 1902). The following is its clinical résumé: Temperature 38° to 39° C.; pulse 159; great prostration; vomiting; rectal incontinence; feces reddish-yellow, liquid; abdomen enlarged; liver and spleen increased in size; slight general anasarca; skin had the pale yellowish color characteristic of pernicious anemia, and the whole clinical picture suggested that condition. A diagnosis of malarial cachexia had been made by the attending physician. In the search for the cause of the condition the author made an examination of the feces, and in one microscopical preparation alone, found 184 eggs of the ankylostomum. Thymol was given in large doses, 2.50 grams in one day causing expulsion of 104 of the parasites. After 12 days' interval, three grams were administered; this being followed by expulsion of 36 worms. The same dose repeated twice at intervals of 12 days resulted in dejecta containing 60 and 64 parasites. The patient was fully restored to health within four months. The following suggestions for the management of such cases are made by the author: The patient should remain in bed during treatment upon a milk diet, and no alcoholic beverages should be allowed. A purgative is to be given before and after administration of thymol.

Mode of Transmission of Ankylostoma.—The theory advanced by Dr. Loos, that ankylostoma might pass through the skin and eventually reach the intestines, has been somewhat shaken, if not in part disproved, by the work of G. PIERI (Arch. Biol. Ital., vol. XXXVII, fasc. II, 1902). A few drops of a culture containing numerous larvæ of ankylostoma were placed upon his hand, and a like quantity brought in contact with the skin of two of his coworkers. Microscopical examination after the culture had dried upon the skin demonstrated that the larvæ had undoubtedly penetrated the cutaneous tissue, as there was no visible evidence of their presence upon its surface. In two of the subjects experimented upon irritation of the skin developed, as evidenced by swelling, pain, burning, etc. This lasted for several weeks. Daily examination of the feces revealed entire absence of the larvæ of ankylostoma, save in PIERI, who after a month discovered a few eggs in his own feces. This infection, however, he attributes to accidental ingestion of the parasites while handling the material, basing this supposition upon the fact that the other subjects of experiment were not infected. In a communication to the author Loos states his belief that after a further lapse of time the parasites will undoubtedly be found in the feces of all three subjects. Further experiments are to be carried on by Pieri to determine the ultimate fate of such larvæ after penetration of the skin.

The Value of Cytodiagnosis.—From a study of 43 pleuritic and peritoneal effusions C. TARCHETTI and A. ROSSI (Gazz. Osped., September 7, 1902) draw the following conclusions: (1) The epithelial cell, from the epithelial layer investing the serous membrane, is the predominant element in transudates, but numerous small monouclear cells are frequently seen, which differ in certain respects from true lymphocytes, and which may be regarded as modified epithelial cells; (2) in pleuritic exudates accompanying acute pulmonic inflammations polynuclear leucocytes prevail; (3) in the so-called primary pleuritis, lymphocytes predominate, but there is sometimes preponderance of polynuclear elements or epithelial cells; (4) the lymphocytes which are found in primary pleuritis do not represent a regressive form of serous epithelial cell, but are to be considered, at least for the most part, as true lymphocytes; (5) there are effusions showing predominance of lymphocytes, in which neither clinical nor bacteriological examination reveals tuberculous infection, while there are, on the other hand, effusions known to be tuberculous which contain excess both of polynuclear leucocytes and lymphocytes. The deduction is drawn that cystodiagnosis is of very limited value, and reliance upon that alone, in suspected tuberculosis, leads to error.

The Role of Animal Parasites in the Etiology of Appendicitis.—In the course of his extensive anatomical studies of the topography and pathological anatomy of the appendix, Dr. ROSTOVTZEFF (Bolnit. Gaz. Bot., No. 28, 1902) came to the conclusion, that Metchnikoff's opinion on the causative influence of worms on appendicitis can hardly be accepted. On the one hand, he found the parasites in a comparatively small percentage of the examined appendices, and on the other, of those appendices where he found the parasites a great many were perfectly normal.

A New Symptom in Tetany.—Dr. SSOLOVIEFF (Russky Vratch, No. 20, 1902) describes a very interesting phenomenon noticed by him in two cases of tetany. With every systolic contraction of the heart he noticed a rapid drawing in of the left side of the abdominal wall and of the left intercostal spaces, and a convulsive use of the lower ribs. This phenomenon was not simultaneous with the contraction of the heart, but closely followed it. Examined with X-rays the patient showed contractive movements of the left half of the diaphragm synchronous with the pulse. Dr. Ssolovieff explains this symptom, which he is the first to notice, in the following way: The heart on the aorta with every systolic contraction touches the left phrenic nerve, and as in tetany every nerve-muscular apparatus is oversensitive, this touch is sufficient to stimulate the motory fibers of the left phrenic nerve and consequently produce a contraction of the left half of the diaphragm. He therefore proposes to call this new symptom of tetany the phrenicus-phenomenon.

Estivo-autumnal Malaria Endemic in Manhattan.—Only during the last two or three years has there be postive proof that estivo-autumnal malaria sometimes developes in this immediate vicinity. It is still held by many that these cases are all imported from the South, but recently such cases have been reported by several hospitals of this city, and H. S. PATTERSON (Med. Rec., September 6, 1902), after following up the histories of several patients, has conclusively proven that they must have been infected within a few miles of New York. The soldiers of the Spanish War brought back a goodly supply of those organisms, and there now can be no doubt that they have been communicated to others.

Inflammation of the Diaphragm.—It is generally understood that a case of pneumonia is almost always accompanied by a fibrinous pleurisy and therefore when the lower lobe of the lung is involved a diaphragmatic pleurisy usually follows. C. W. G. Rohrer (Md. Med. Jour., September, 1902) has examined a number of cases microscopically and finds that a diaphragmitis is furthermore a very frequent condition, and is responsible for many of the peculiar acute symptoms of pain. The intermuscular tissues are thickened, infiltrated with pus-cells, and contain an increased number of connective-tissue nuclei. The muscle fibers are swollen, have lost their striations, and undergo hyalin degeneration. The infection of the diaphragm may result from direct extension, by the lymphatics or by the vascular system. There is a well-defined symptom-complex, due to acute diaphragmitis complicating pneumonia. There is an acute pain in the region of the diaphragm, perhaps constrictive in character, intensified on deep inspiration and on coughing. Respirations are hurried, shallow and thoracic in character. Pain may be elicited by pressure over the epigastrium and the pain is sometimes referred to the abdomen, especially in cases of small children.

Environment as a Cause of Ague.—The proceedings of the Malarial Congress recently held at Nagpur, Central India, were full of interest. One of the most important topics discussed was the occurrence of fever identical with malarial fever, in which parasites cannot be found in the blood. After repeated searches by experts, and before quinine had been given, instances of failure to find the parasite in undoubted cases of malarial fever were narrated, every speaker at the congress affirming the malarial nature of cases of chronic fever with a large spleen. From this it appears that at the present time the term "malarial fever" includes two clinically identical but etiologically distinct fevers, which may be called respectively parasitic and non-parasitic fever. M. D. O'Connell (Lancet, September 6, 1902) discusses environment as a cause of ague, especially of this non-parasitic ague. By environment he means the hot, moist, stagnant atmosphere in which these cases of fever become most prevalent and for many years was considered a sufficient explanation of their cause. As regards this environment, it is obvious that it may be of a higher degree of intensity in some places than in others, in some years than in others, in some seasons than in others, and in some individuals than in others. It is perhaps possible to demonstrate that the invariable effect of exposure to such environment is to produce an intermittent excess of water in the blood. This intermittent excess of water in the blood may be seen to effect a clear explanation of the intermittent fever, anemia and melanemia, enlargement of the spleen and other characteristic malarial symptoms. The table which he published aiming to establish this theory is extensive and exceedingly instructive, but the following summary gives a suitable review of what this author considers the important elements in the case: (1) Cases of fever, clinically identical with malaria occur, in the blood of which parasites could not be found after repeated search before quinine had been given; (2) the meteorological invironment found where such cases occur, and indeed in all malarial climates, increases the amount of water in the blood of those exposed to its influence by impeding elimination through the skin and lungs (evaporation-heat loss) and through the kidneys; (3) there is known to be increase of water in the blood of those suffering from ague (Liebermeister); (4) increase of water in the blood increases metabolism, *i. e.,* heat-production, and produces a rise of body-temperature (Payne); (5) as environment thus causes diminished heat losses from the body and increases heat-production within the body, it is plain that it causes pyrexia; (6) this pyrexia must be of intermittent variety, as the environment which produces it is of intermittent intensity, *i. e.,* undergoes diurnal variation; (7) elimination of water from the blood (sweat) in ague reduces the temperature to normal; (8) increase of water in the blood produces poikilocytosis, pseudoparasites, liberation of hemoglobin, destruction of red blood-corpuscles, and melanemia; (9) an extreme degree of these changes obviously leads to hemaglobinuria; (10) increase of water in the blood produces enlargement of the spleen; (11) removal from the environment that produces increase of water in the blood usually cures ague; (12) all treatment of ague which is efficacious reduces the amount of water in the blood. From these facts he thinks it is not unreasonable to conclude that those cases of ague or intermittent fever in which no parasites can be found are demonstrably due to the environment under which they arise. If this view is correct it is only one more illustration of the truth of the old saying that pathology in many instances seems to be but physiology in distress.

Results of Antityphoid Inoculation.—The signal victories gained in the fields of curative and preventive measures against diphtheria by the use of antidiphtheritic serum at once increased the interest in the antityphoid serum when announcement was made that it had been successfully produced. Among British observers and experimentors probably A. E. Wright has been more active than any other. In an article (Lancet, September 6, 1902) on "The Results which have been Obtained by Antityphoid Inoculation" he gives the following summary as a digest of a minutely careful and scientific table, which will repay critical survey by anyone. As to the general results of the statistics, he says it would be illegitimate to express them in the form of an arithmetical expression representing as the case might be, the average diminution of the incidence and the average diminution of the death-rate from typhoid fever in the uninoculated. It would be illegitimate to do so, because the degree of exposure to infection and the proportion of inoculated to uninoculated are in each case different. Speaking of incidence, he says a study of the statistical materials at his disposal will, however, show that in every case except that of the City Imperial Volunteers (where the statistical materials consist only in the bald figures incorporated in the table) and in the case of the Staffs of the Portland Hospital and Imperial Yoemanry Branch Hospital at Pretoria, there was at least a two-fold reduction in cases of typhoid fever in the inoculated. In certain cases a greater reduction in the incidence of typhoid fever was achieved—a reduction varying from six-fold to twenty-eight-fold. The author claims, speaking of case mortality, that there is, superadded to the diminished incidence of the disease, a striking diminution of case mortality, as is attested by the extensive statistic material collected by Dr. R. W. Dodgson, and more particularly by the accurate and extensive figures furnished by Major C. Birt, R.A.M.C., personally, and by the Staffs of the Civil Hospitals in South Africa. It may be taken that in the aggregate the proportion of deaths to cases among the inoculated is approximately half that among the uninoculated. Wright further claims that the combined effect of the diminished incidence and diminished case-mortality manifests itself in the diminished death-rate from typhoid fever among the inoculated. The minimum reduction of death-rate chronicled in the table is the two-fold diminution in the case of the City Imperial Volunteers. As will be seen, the reduction of death-rate in case of the inoculated has often exceeded, and has seldom fallen below, a four-fold reduction. In bringing this summary to a close he emphasizes a point already elucidated in his previous papers, that there is in connection with all protective inoculation a risk to be considered. There is a risk that in a case where the patient's resistance is naturally low, or has been reduced; as is often the case, by a previous attack of typhoid fever; in a case where the patient is inoculated with a full dose of vaccine in actually infected surroundings, and in a case where the patient is inoculated with an excessive dose or is reinoculated too soon, the system may be left more open to infection at a period when it needs protection. It must be the task of the future to try to diminish the risk, on he one hand, by working out an adequate method of standardization of the vaccine, and, on the other hand, by combining with the study of the change produced in the blood by antityphoid inoculation the study of the blood in typhoid convalescents and the study of the gradual success or failure of the process of immunization in the actual typhoid attack. It is not necessary to insist on the urgency of this task.

OBSTETRICS AND GYNECOLOGY.

Vicarious Menstruation.—An exceedingly rare example of this condition is reported by J. H. CLAIBORNE (Jour. Am. Med. Assoc., September 13, 1902). A girl of sixteen, otherwise normal, presented, two or three days before her regular periods, a red spot under each eye. The skin became red, and the blood oozed through and formed a crust, which disappeared with the period. The bichloride of mercury with compound tincture of gentian was given. Her general health improved, but the other phenomenon was in no wise influenced.

Placenta Prævia.—In reviewing the cases at the Sloane Maternity Hospital it was found by F. A. DORMAN (Med Rec., August 30, 1902) that placenta prævia occurred in one out of 133⅓ cases. This simply shows the high percentage of operative cases in hospital practice, for the usual proportion is one in about 1,000. Any condition which tends to interfere with the fixation of the ovum as it comes from the Fallopian tube serves as a causative factor. In this series the ratio of multiparity to primiparity was eight to one. The diagnosis must be made upon the history of the case and vaginal examination. A history of bleeding during the latter months of pregnancy always demands an examination, for a second warning may not be given, and a profuse bleeding causes rapid death unless help is at hand. These statistics show a mortality of about 12 per cent., but it usually ranges between 20 and 25 per cent. On account of the operative interference which is usually necessary in the interests of the mother, the fetal mortality ranges between 50 and 60 per cent. Expectant treatment is permissible only before the seventh month, in order that the time of complete viability may be reached. Fatal cases before that time are seldom heard of. The induction of labor may be by a vaginal tampon or by a bougie, but the best method is by the Champetier de Ribes bag as modified by Voorhees. With this in the cervix we have a good uterine stimulant and a perfect tampon. One rule laid down as invariable is that the patient should never be left alone till she is delivered, and pregnancy should never be allowed to advance beyond the seventh month. If the bags are not obtainable the cervix must be rapidly dilated and a podalic version done, so that a leg may be brought down to act as a tampon and stop the hemorrhage. An external version is frequently possible in these cases, because the head remains high up above the pelvic brim. After bringing down a leg the completion of the dilatation may be left to nature. The first consideration is to control hemorrhage, and the second is to combat shock, which is so often present. Intravenous injections of salt solution are very beneficial. A comparatively frequent complication is rupture of the uterus on account of the force sometimes used in extraction and on account of the vascularity of the cervix. As the chances of the child are bad anyway, too great risk should never be taken with the mother in rapid extraction. A suggestion is made that Cesarean section might be justifiable if the mother is in good condition, the cervix hard and undilatable, and the surroundings favorable for a laparotomy.

A New Speculum.—Fergusson's cylindrical speculum has filled a wide field of usefulness in gynecology, for purposes too well known to need repetition. Notwithstanding its general applicability, however, the instrument has limitations which everyone who has used it extensively will appreciate. They are due chiefly to great length and uniformity of diameter, which, even in large women, cannot possibly exceed rather narrow limits, excepting at the vulva. In order to overcome these difficulties, A. THEILHABER of Munich (C'blatt Gyn., No. 34, 1902) has devised an instrument with the following features: Instead of a cylindrical tube, a truncated cone, whose base corresponds to the vulva when the instrument is inserted. The plane of the other surface is oblique, so that the element of the cone which corresponds to the front wall of the vagina is 10 c.c. long, and the opposite element, lying along the posterior wall, is 12 c.c. long. The base of the cone is 10 to 12 mm. larger than the inner end of the instrument. Thus it will be seen that a speculum is provided which possesses all the advantages of the old-style Fergusson, with the added advantage of giving space at the vulva for the free application of the volcella forceps, uterine sound, applicators, etc. After some experience, he has found that there are hardly any women who will not, without discomfort, bear the incision of this speculum as well as they do that of the old speculum.

Lactation Atrophy of the Uterus.—Imperfect involution stands next in importance to gonorrheal infection as a causative factor of pelvic disease in married women, writes H. N. VINEBERG (Am. Gyn., August, 1902). It is insidious and two years or more may elapse before manifest symptoms arise. The author believes that the uterus of a nursing woman always normally undergoes atrophy till it has reached a size below that of the non-parous organ, and he finds that if the mother does not nurse her child this "hyperinvolution" does not take place unless assisted. It is his custom to keep his patient under observation for eight or ten weeks after parturition, and to induce this hyperinvolution by pelvic massage, hot douches, strychnin, ergot, etc. He thus avoids the rebellious chronic metritis which so often follows incomplete involution.

Ventroscopy Through a Vaginal Incision.—It has taken some years for the majority of operators to acknowledge the advantage of approaching the female organs of generation through the vagina rather than through the abdominal wall in selected cases. Even in these there are many authorities who claim that the absence of free view of the field is an absolute obstacle to the use of this route. D. V. OTT (C'blatt Gyn., No. 31, 1902) gives in detail an interesting description of his method of obtaining a very good view of the lower half of the abdominal cavity. After the incision in the vagina is made, with the patient in the usual exaggerated lithotomy position, her trunk and head are lowered until they assume the position of Trendelenberg, without, however, in any way modifying the previous arrangement of the lower extremities. He now passes into the vagina, against the anterior wall and the cervix of the uterus, a speculum somewhat like the Sims, with the blade at an obtuse rather than a right angle with the shaft, and carrying near its extremity a powerful incandescent electric lamp, to which wires pass along the handle of shaft. The posterior vaginal wall and rectum are retracted by a similar instrument. The attitude of the patient secures the gravitation toward the diaphragm of all the bowels, so that a perfectly free path of view is afforded of all the lower half of the abdomen, which may be increased by pulling the abdominal wall forward with volcella forceps at the navel. In this manner the former objection against the vaginal route is in part overcome, and certainly, where an incision for diagnosis is desirable with the least possible scar to the patient, this simple procedure is exceedingly serviceable. With experience, in cases where organs have been removed, and thorough examination of the cavity is desired, a great deal of information may probably be obtained with it in a short time.

The Treatment of Placenta Prævia.—In the opinion of J. B. Delee (Am. Gyn., August, 1902) placenta prævia is more formidable than most laparotomies, and the patient should be preferably in an obstetric operating-room. Regard for the child must be secondary to regard for the mother. Under the older method of Braxton-Hicks version the mothers could almost all be saved, but most of the children were lost. By Cesarean section the child can be saved, but the danger to the mother is great, especially as retraction of the uterine muscle at the cervix is not good, and therefore hemostasis is uncertain. The author induces labor by puncturing the bag of waters, inserting a colpeurynter into the uterus, and making traction on the tube. If the hemorrhage is slight and the pains regular and strong, one must wait; a larger hemorrhage demands puncture of the bag of waters. If this does not stop the hemorrhage deliver at once by forceps if the head presents, by the breech if this presents, by podalic version and extraction if the head is not engaged. But if the cervix is not yet fully dilated, the leg may be brought down by version until the breech tampons the cervix, then slight traction is kept up. The cervix in placenta prævia seems more distensible than it is, so do not induce too rapid delivery. A safer treatment for the child is to tampon by the colpeurynter, which is placed inside the membranes resting on the fetal surface of the placenta, and is distended with a weak solution of lysol. The pains soon begin and the bag is expelled in two to eight hours. If the head has followed the bag and engaged in the pelvis the hemorrhage has ceased, and if the fetal heart-sounds are normal the case may be left to nature. If at any time before the cervix is fully dilated, there should arise an indication on the part of the child for immediate delivery it must be disregarded, as the danger is too great for the mother. When the child is born it is advisable to remove the placenta and membranes at once, and manual removal is not seldom necessary. Postpartum hemorrhage may be expected. Do not waste valuable seconds on uncertain methods of hemostasis, but if the bleeding is more profuse than it should be tampon tightly the whole uterovaginal tract. If much blood has been lost give hot saline solution under the skin, not by rectum, as the latter interferes with local treatment.

Pregnancy and Rectal Cancer.—Pregnancy complicated by cancer of the rectum is extremely rare, only 13 well-authenticated cases being reported in literature. This fact is explained on the grounds that cancer usually follows the climacteric, and that carcinoma of the rectum is more rare in women than in men. The proper procedure from the standpoint of obstetrics for cancer of the rectum in pregnant women is, according to Holzapfel, the total extirpation of the neoplasm, manifestly because its presence so narrows the pelvic canal that a living child can otherwise hardly be born. In cases, however, where the cancer itself does not permit of operation, the indications are to provide otherwise for the birth of a living offspring. These inoperable cancers ordinarily take up a great space in the pelvis, and the birth of a full-term living child through the natural channels is almost always impossible for this reason. It is almost always necessary to perform a Cesarean section. Of the cases reported in literature, seven concerned such an operation. If the carcinoma is advancing so rapidly that the death of the mother is foreshadowed before the end of the pregnancy, Cesarean section must be carried out, or, if the birth canal is still large enough, a premature delivery must be brought about. Another condition is when the child within the womb is already dead, and the mother presents an inoperable cancer. In such cases Cesarean section must be performed only when absolutely indicated; that is, when other obstetrical operations are no longer possible on account of narrowing of the pelvis. It is to be remembered in this connection that carcinomatous tissue has very little elasticity, and is therefore more easily torn than the normal tissue. Cruveilhier and Kürsteiner both reported great damage to the rectum in their efforts to extract the child under just such conditions. There are, however, many of these cases in which a vaginal operation will permit the delivery of the child with sufficient readiness, and yet with greater safety to the mother than a Cesarean section. Quite otherwise are those cases of cancer, according to Z. Endleman (C'blatt Gyn., No. 32, 1902) which permit removal of the growth by surgical measures, a procedure which must be carried out as quickly as possible. The chief question is whether the pregnancy should first be ended and then the growth removed or vice versa. In literature there is only one case of carcinoma of the rectum operated on as late as the sixth month in pregnancy, and that was followed by abortion four days after, and then on the fifth day by the death of the mother. With only this one case as a guide, it is impossible to say that no operations of this kind should be done during pregnancy. Probably a good rule will be that if the tumor is small and situated low down in the rectum, its removal without interfering with the pregnancy is proper. During such an operation it is necessary to expect greater hemorrhage, because all the organs of the pelvis are in this state more richly supplied with blood. It would also be natural in the majority of cases to expect abortion, not only through infection, but also through various accidental damages to the womb and its contents. Since the lochia will invade any fresh wound, it is advisable to separate the operations of abortion and removing the neoplasm by as many days as possible.

Cesarean Section after Death.—This operation, done soon after death of the mother in the latter period of confinement, has so often met with failure that the report of a successful case should be of interest. H. Jungeblodt (Deut. med. Woch., September 4, 1902) performed the operation within 17 minutes after the sudden death of the mother (cause not stated). The child was deeply asphyxiated, but was revived in 20 minutes by the usual methods. The mother had been near term, and in previous good health. The infant was in good condition at the time of writing, almost a month later.

Vaginal Operations for Retroversions.—In a certain class of cases the vaginal route is considered the best for securing the uterus in position and maintaining it. H. N. Vineberg (Med. Rec., September 6, 1902) some time ago reported a series of 50 cases in which he had sutured the anterior surface of the uterus to the vagina by this method, which he first used in 1893. A subsequent report is made to show the permanent value of the operation, and especially to demonstrate that pregnancy may subsequently occur and the patient be delivered without any dystocia. The operation is, however, particularly indicated in cases of retroversion giving rise to symptoms in women past the child-bearing period or in women past the fortieth year, when a pessary cannot be worn, or is inefficient; and in cases of retroversion in women nearing the menopause, in which there is also a prolapse with rectocele and cystocele. The latter conditions must be operated upon also at the same sitting. A very useful aid in holding the uterus in place results from suturing the round ligaments to the vaginal wall after a simple median incision has been made through it.

Hebotomy.—The operation called hebotomy is one of the more recent procedures in surgery, as a rival of the older, symphyseotomy. The advantages it possesses over the older methods are given in the following terms by T. H. VAN DE VELDE (C'blatt Gyn., 1902, No. 37). The saw-cut lies, not in the median line, but to one side of it, so that the suspensory ligaments of the bladder and urethra are not damaged. The soft parts are much thicker to one side than in the median line, so that therefore an accidental tearing into the vagina is much less apt to occur. Dangerous bleedings are, for this reason, less frequent, and also for the reason that the clitoris is entirely avoided. The relation of the attachment of the adductor longus and gracilis muscles to the pelvis at this point tends to provide against undue separation of the bones after they have been cut through. The opportunities and the likelihood of complete prompt union are better between two sawn ends than between the bones which enter into a joint which has been opened. The disadvantage of hebotomy is that the course of the cut is very close to the large vessels of the thigh, which may be injured during the interference. Ordinary caution, however, ought to avoid this very difficulty. The indication for it is, chiefly, a pelvis in which the true conjugate and diameter is less than seven cm. It comprises, for the child, an operation that is not dangerous, with the likelihood of bringing it into the world living and undamaged; for the mother, a procedure which is much less disadvantageous than symphyseotomy in its results, and for the surgeon a means of treatment which may be carried out with equal facility and with somewhat greater satisfaction in its later results.

Eclampsia.—In those cases of eclampsia which appear just at the beginning of childbirth two possible methods of treatment claim attention; namely, intrauterine colpeurysis and Cesarean section. Without doubt the former is, for the average practising physician, the easier, but one cannot overlook the fact that forcible dilatation of the mouth of the womb has an unfavorable influence upon cases of eclampsia. Whether tropacocain (Winckler) is to prove in this connection a new means of overcoming the difficulty is still to be proven. On the other hand, however, the ordinary cases of eclampsia are in our hospitals and clinics, most successfully treated by the Cesarean section, because the uterus is so quickly emptied by it, and the other dangers of this disease thus stopped. JALIREISS of Augsburg (C'blatt Gyn., 1902, No. 35) reports two cases of eclampsia in which he emptied the uterus by the vaginal Cesarean section, as originally suggested by Dührssen, in the first case with favorable, and in the second case with unfavorable results.

On the Question of Acetonuria in Diseases of Women.—In a majority of cases of fibroid of the uterus examined by Dr. KREVOSHEIN (Russky Vratch, No. 31, 1902) he found the quantity of aceton in urine was increased. The reason for it the author sees on one hand in the decreased quantity of hemoglobin in the blood, and on the other hand in the degenerative changes in the blood-vessels and heart of these patients. Both conditions produce an insufficiency of oxygen in the tissues, which is generally accepted to be the cause of the appearance of aceton in the urine.

Attendance on Scarlatina and Obstetrics.—The general practitioner is almost daily confronted with the problem of what he should do with obstetrical cases while attending infectious diseases. A. REICH (Am. Jour. Obstet., August, 1902), in discussing this question, takes a diametrically opposite view to that taught in the text-books. From November, 1900, until March, 1901, this physician had occasion to treat 78 cases of scarlet fever in 25 families. During the same period, he attended 40 women in confinement. Though some of his patients had scarlet fever during their puerperium, there was not a single case of sepsis. The writer concludes from his personal experience that in the parturient women infected with scarlet fever it runs an ordinary course, and that, while scarlet fever and puerperal sepsis may cöexist, each runs its distinctive course.

Cesarean Section, Following Ventrosuspension.—The extensive compilations of the cases of ventrosuspension, ventro- and vaginal fixation show, both in this country and abroad, a large percentage of dystocia, says A. BROWN (Am. Jour. Obstet., August, 1902). The cases necessitating abdominal operations have been largely fatal in results, as they have been resorted to too late, and the risk of sepsis has been increased by the exhaustion of the patient and by the previous efforts at delivery by the natural passages. The 808 American cases collected by Noble show 20 per cent. dystocia in pregnancies following uterine suspensions or fixations, with a mortality of six per cent. One was a Porro-Cesarean section with fatal results. European statistics, taken from 175 pregnancies, show 17 miscarriages, seven premature labors, 133 full-term labors. Of these, 15, or 11 per cent., necessitated operative interference. There were three Cesarean sections, two of which were fatal. The author thinks that in the light of our present knowledge in cases where no other course of treatment seems to offer so much as ventral suspension, the patient should be warned of the necessity of careful supervision if pregnancy ensues, that the artificial freeing of the uterus, or labors induced before the cervix is drawn too far posteriorly may be done; or, in case the pregnancy is permitted to advance to full term, that she may be delivered by Cesarean or Porro-Cesarean as the operation of choice, rather than of necessity, after exhaustion of her vital forces subsequent to prolonged ineffectual labor.

Sarcomatous Enchondroma of Pelvis During Pregnancy.—A very interesting case of this description was admitted to the Glasgow Maternity Hospital and was in the seventh month of pregnancy. ROBERT JARDINE (Jour. Obstet. and Gyn. Brit. Emp., August, 1902), in describing the case, found an enormous sarcomatous euchondroma arising from the pelvic wall. The child was still alive, and it was decided that though the prognosis for the mother was hopeless, and as the child would not be viable, it would be well to wait and then perform Cesarean section. Nine days after the admission of the patient to the hospital Cesarean section was decided upon and performed. The child was found to be dead. The uterus was closed, as was also the abdominal wall, no attempt being made to remove the tumor. Twenty-four hours later the mother died. Autopsy was performed, and the whole pelvis removed. There were no metastases in any of the organs. Microscopic examination of the growth showed it to be composed almost entirely of large, rapidly growing cartilage cells, with here and there small groups of cells suggestive of sarcomatous degeneration. No origin of the tumor mass could be determined upon.

HYGIENE.

Flies and Disease.—From a lengthy article upon hygiene, embodying a plea for pure air, water and food, and for municipal prophylaxis of disease, by E. Edelman (Hab. Med., Year v, No. 8, August, 1902) a timely suggestion concerning flies and other insects as disseminators of disease may be gleaned. Now that the prophylactic war against the mosquito has been initiated, extermination of the fly seems to be a question well worth consideration. The author calls attention to the observation of Nicholás, confirmed by Buchanon, that recrudescence and diminution of cholera coincide with fluctuations in the number of flies. Other investigators quoted as having pointed out the possible rôle of the fly in the transmission of disease are: Hoffman, who found the tubercle bacillus in the dejecta of flies from the wards of a hospital for tuberculous patients, and who subsequently produced tuberculosis in animals by inoculation of a triturated preparation of such flies; Grelac, who demonstrated trichinæ in the stomach and intestines of flies fed upon meat infected with trichinosis; Grassi and Stiles, who discovered respectively the embryo of tinea and ascaris lumbricoides in the bodies of these insects. The suggested possibility of dissemination of infectious diseases generally through such agents affords much food for thought.

Gas Leakage and Public Health.—Although every one is at times temporarily annoyed by gas leakage into the house or adjacent street, very few of us really appreciate the enormous quantity which is constantly being poured into the atmosphere of our cities. During the past few years J. C. Bayles (N. Y. Med. Jour., August 23, 1902) has made a careful study of this nuisance and finds that the normal leakage of a six-inch main is about 225,000 cubic feet to the mile per annum. In Manhattan, as nearly as can be figured, there is a loss of about 11 per cent. of the output, or about 8,000,000 cubic feet per day. Of the gas which is ordinarily used in this city about 30 per cent. is carbon monoxid, the poisonous qualities of which are well known to the medical profession. Professor Jackson of Harvard found that vertigo was caused by the presence in the atmosphere of a room of one-tenth of one per cent. of water-gas, and very small percentages have been found to act as energetic blood-poisons. Habitual exposure to such a vitiated atmosphere makes health impossible and is undoubtedly responsible for many of the unusual cases of chronic anemia which are now so numerous, and which cause so many varieties of symptoms.

SURGERY.

Hip-Disease.—It is customary to describe the diagnosis of the three stages of hip-disease, but A. R. Shands (Am. Jour. Obstet., August, 1902) does not consider this necessary, as the time of importance is the first stage, after which, if diagnosed and properly treated, no later stage should take place. The symptoms to observe in early diagnosis are: (1) Stiffness of the joint due to tonic muscular contraction; (2) attitude of the limb in standing, walking or lying, and either flexion, adduction or abduction; (3) lameness; (4) atrophy; (5) pain; (6) swelling. These are in the order of their importance. In differentiating this disease in the early stage quite a number of affections at times present themselves; but the author considers only rheumatism, contusion, sprain and neurosis of the hip-joint. Infantile paralysis, acute synovitis, bursitis and periostitis are a few others to be taken into consideration. In the treatment of the early stages there are two great divisions of opinion among surgeons—the radical method, which is to excise the head of the bone, producing a rapid cure of the disease but often resulting in a flail-joint useless for locomotion, and the more conservative method which depends upon the well-established fact that there is a tendency to spontaneous recovery in all tubercular bone lesions. Following out conservative treatment, the joint should be protected against all jar, exaggerated pressure, or violent motion; therefore, the indications are to furnish fixation, extension and protection; to benefit the patient's health in every possible way; to prevent and correct deformity, and to meet such complications as may arise. The best mechanical means of immobilizing the hip-joint is the plaster-of-Paris spica. If distortion is present it should be corrected before the application of the plaster. No rule can be laid down as to the length of time the plaster should be kept on. Generally speaking, this will be from three to six months, or even a year. It is worse than useless to apply a brace until spasm has subsided. How long shall a brace be worn, and when shall it be applied? It should not be applied until muscular spasm has been sufficiently overcome to prevent the recurrence of deformity. It should be continued just as long as there is any evidence of disease, be the time one year or five. The best brace is one which will afford the best protection to the joint and furnish traction sufficient to prevent the occurrence of deformity during the convalescence.

Cancer.—Although the tradition of the heredity of cancer is so deeply rooted in the popular mind, cancer can be conveyed by contact, if the receiving soil is favorable; and every hopeless case of cancer should be isolated, according to A. L. Smith (Am. Jour. Obstet., August, 1902). This physician has found it to be the exception and not the rule that his cancer patients have had cancerous fathers or mothers. It has been the rule that they have lived in the house with a cancerous husband, or with a person of no blood relationship to them; or, as in the case of two sick nurses, they have attended a woman with a cancer, or have been exposed to contagion in other ways. Hence precautions should be taken to limit the spread of the disease, such as the wearing of jute-pads to collect the discharges, which pads should be burned; also, frequent douching with formalin or permanganate of potash to destroy the cancer-cells, and disinfection of the patient's hands, as well as the hands of her attendants, whenever they are brought into contact with diseased surfaces. Panhysterectomy should be practised where the cervix alone is involved. If hemorrhages take place after menopause it is almost always an evidence of cancerous involvement of the uterus, and the organ should be immediately removed. All lumps should be taken from the breasts of women who have reached about forty years of age as soon as discovered, instead of waiting six months to make sure whether they are cancers.

Spinal Anesthesia.—This method of inducing anesthesia, which has been in practical use for about three years, and has been employed in between 3,000 and 4,000 cases, has passed the strictly experimental stage. Samuel L. Weber (Am. Jour. Obstet., September, 1902) first employed it in February, 1900, and has had experience with it in about 150 cases. The solution of cocaine is prepared by the druggist as cleanly as possible, with the following formula: Antipyrin, 2 gm., cocaine hydrochlorate, 2 gm., acid boric, 2 gm., water, 100 c.c. This solution is permitted to stand 48 hours, and at the expiration of that time, the author considers it to be sterile. Failures to produce anesthesia are due to these causes: (1) Inert cocaine; (2) failure to penetrate the spinal canal; (3) failure of the solution of cocaine to be injected into the subarachnoid space; (4) in some cases the packing of the barrel of the syringe is defective, so that nearly all the cocaine solution dribbles out instead of going into the subarachnoid space. The disagreeable after-affects as described by the author are parasthesia, nausea, headache, fever and delirium. There were no deaths among the author's cases. Spinal anesthesia will find its most extended field in obstetrical work, though it may be used (1) for all operations upon the lower limbs; (2) for all operations on the perineum; (3) for all groin operations; (4) for vaginal work; (5) for vaginal hysterectomy and adnexia operations through the vagina; (6) for bladder operations; (7) for intra-abdominal work. Occasional operations higher up on the body may be performed, such as excision of ribs, empyema operations, amputations of the breasts, operations on the arms, tumors of the neck, and even a goiter operation. In kidney-disease, acute bronchitis and chronic bronchitis the procedure is not contra-indicated. Spinal anesthesia saves assistants. In myocardial disease spinal anesthesia offers no advantage over ether narcosis. In old topers and in those cases where chloroform and ether can not be carried beyond the stage of excitement, cocaine spinal narcosis is especially helpful. This is also true of cases of shock and hemorrhage. The objectionable features of subarachnoid cocainization are: (1) The fussiness of the injection; (2) the nausea and vomiting, and (3) the fact that the patient is conscious during the operation. The mortality is high for the few operations that have been performed with this method, but most of the deaths have been among the aged and debilitated, who also give a high mortality with chloroform and ether.

Accessory Thyroid Gland.—An instance of this comparatively rare condition is recorded by E. L. SHURLEY (Phil. Med. Jour., September 13, 1902), in which removal was followed by myxedema. A girl of sixteen presented a tumor as large as a hen's-egg in the pharynx at the base of the tongue, which caused progressive difficulty in deglutition. General health and condition were very good. The tumor was removed, under chloroform anesthesia, by a heavy wire snare. The hemorrhage, which was considerable, was controlled by compresses of adrenalin solution. The wound healed in a week. About three weeks later she exhibited well-marked signs of myxedema—swollen skin, mental dulness, headache, debility, etc. Rapid improvement took place from the administration of thyroid extract, grs. 2-5, t.i.d., which has been continued intermittently. Histological examination showed the growth to be a true thyroid. The author call attention to the fact that there was no evidence indicating atrophy of the normal thyroid, but thinks that the organ must have been abnormal in its functional activities, in a condition probably analogous to those cases of goiter in which the structure has undergone fibrous degeneration to the detriment of the vesicles and their secretory lining.

A Case of Spontaneous Rupture of the Heart-wall.—The interest of this case lies, according to Dr. RUCHINSKY (Bolnit. Gaz. Bot., Nos. 21 and 22, 1902), in the fact that the rupture took place in a generally fatty heart without any thrombosis and secondary coagulation necrosis of the muscular tissue in the place of the rupture. The plausible explanation of such cases is that there formed previously an interstitial miocarditis, the wall of the heart has become thinned and consequently more easily vulnerable. Any cause exciting the heart to an abnormal amount of work could distend and eventually rupture such a thinned place.

Postoperative Crural Thrombosis.—In a series of over 7,000 cases operated upon in the gynecological department of the Johns Hopkins Hospital, B. R. SCHENK (N. Y. Med. Jour., September 6, 1902) found that there were exactly 48 cases of crural thrombosis during convalescence. The factors which are supposed to exert an influence in causing this condition are: (1) Changes in the blood itself; (2) mechanical interference with the circulation; (3) alterations in the vascular walls, and (4) infection. Thrombosis occurred in the right leg in only 10 cases, and this is explained by the presence of the sigmoid flexure on the left side obstructing the return circulation. A peculiar fact brought out by this series was the large percentage of cases following operations for the removal of large tumors, 58 per cent. occurring after extirpation of pelvic tumors. These are not, as a rule, the cases in which there is the most traumatism, the loss of blood is not usually so marked, and the chance of infection is not so great as in hysterectomy for inflammatory conditions. Yet but one case occurred after the latter trouble. Traumatism, especially from too vigorous use of deep retractors, seemed to be responsible for a sort of epidemic of cases. Pain, chills and a constitutional disturbance which appeared in a large percentage of the cases seem to point strongly towards an infective origin. In practically all the cases the patients were doing well, and had gotten along to about the tenth to the sixteenth day when there was a sudden pain in the left thigh or leg and an accompanying rise of temperature. Albumin occurred in the urine in 20 cases, or a percentage of 41. Singer observed that in his cases of thrombosis there was a rapid pulse previous to the rise of temperature, but in this series the pulse seemed to correspond with the height of temperature. The treatment consisted in keeping the patient at rest in bed with the affected leg elevated. Sometimes the leg was covered with lead and opium wash or simple cold applications, or wrapped in cotton. The position should be maintained for at least five weeks, for subsequent swelling and pain were frequent symptoms when this rule was not observed.

Surgical Treatment of Chronic Bright's Disease.—Such wonderful results have recently been reported by several surgeons who have operated upon supposed cases of chronic nephritis that a thorough investigation by competent clinicians is necessitated. The beneficial results were first observed after operations had been performed to meet other indications, such as movable kidney and the like. These surprising benefits led the operators to try the operation upon apparent cases of acute Bright's in which there were pain, hematuria, albuminuria and casts. In many instances the results were astonishingly good, and Edebohls who believes in decortication with the subsequent formation of adhesions, attempts to explain the rationale of the treatment by supposing that new vessels are formed in the tissues about the kidney, and thus there is an increased blood-supply to that organ. He reasons by analogy from the remarkable relief of certain symptoms which has attended some of the operations upon cases of cirrhosis of the liver. J. A. SCHMITT (Med. Rec., September 13, 1902) shows that the reason why cases of cirrhosis are relieved is simply because there is a new channel of exit into the general circulation given to the blood from the digestive tract. The blood is short-circuited, so to speak, and not compelled to travel through the liver, which is so diseased that its channels are obstructed. No improvement is attempted or expected in the tissue of the liver itself, and no symptoms are relieved except those due to obstructed circulation. One contention made by the operators is that chronic nephritis is frequently unilateral, but it is now generally held that this disease is only a local manifestation of a constitutional condition and that it is due to some toxic principle circulating in the blood. Therefore it is difficult to conceive how a case severe enough to give symptoms could be wholly unilateral. The claim that by direct palpation it is possible during the operation to detect disease of the kidney seems unwarranted, for it is frequently very difficult during a postmortem and after section of the organ to determine the character and extent of the disease without the aid of the microscope. It has not yet been proven that there was any important blood-supply formed in the connective tissue adhesions, and if there was it seems a little strange that it should form anastomoses with the circulation through the glomeruli and tubules. Certainly there is great need of further investigation upon animals and upon the organs of those persons previously operated upon in this manner. It is, however, fair to say that operations upon the kidneys have proven to be of benefit in various conditions. In acute infectious diseases aneuria, with uremic symptoms threatening the life of the patient, can be successfully combated by capsular incisions or renal cleavage, which relieves congestive swelling and excess of intrarenal pressure. Operation upon one side is then usually sufficient. Temporary relief has sometimes been afforded when these symptoms arose in the course of a chronic nephritis. In exceptional cases colicky pains and hematuria may be caused by chronic Bright's, and here again surgical interference might relieve the hemorrhage and pain. Nephropexy may cure the symptoms due to the movable kidney and as the displacement frequently causes pain and albuminuria, these in turn would be benefited. If, however, the movable kidney is affected with chronic Bright's disease, this affliction will remain unchanged by the operation.

Operative Anastomosis Between the Vena Portæ and Vena Cava.—The advantage of leading the blood from the vena portæ for therapeutical purposes is now recognized, and indeed established, so that recently surgical interferences have been devised to accomplish it, but thus far no attempt has been made in man to lead the blood from one directly into the other vein. In Tahna's operation, which is not yet fully justified in the surgical world, an effort is made to bring about indirect anastomosis. But this is not always practical. The known methods for producing direct anastomosis are, at the present time, confined entirely to the laboratory. I. Tansini (C'blatt Chir., 1902, No. 36) seems to have evolved a practical method of accomplishing this direct union between these two large veins in man. After a number of experiments upon the body, which demonstrated the practicality of this means, he described it to one of his students, U. S. Basile, who performed it 10 times on dogs, with seven successes. Like results have rarely been attained in the first series of experiments as to such serious procedures. The technic of the procedure consists in a terminolateral anastomosis of the vena portæ with the vena cava. The vena portæ is identified and isolated, together with a small piece of the vena cava. For the temporary control of hemorrhage, clamps covered with rubber are lightly placed upon both veins, two on each. On the interval between the two on the vena cava, a small cut is made, or, better still, a very small spindle-shaped segment is removed. Into this opening the vena portæ, which has been cut away from hylum of the liver, is drawn and the mortise of the wound is sewn about with silk. When the clamps are removed the blood may be seen to pass from the vena portæ into the vena cava with considerable force, owing to the retention of the blood in both veins by the clamps just spoken of. In the animals which were made the victims of this experiment the food consisted of some meat and plenty of bones. For some months they remained in good health, and were then killed, and the union found to be satisfactory.

A Needle-Holder and Suture-Carrier Combined.—Of the simple, small details of operating, the placing of sutures takes perhaps the most pains and time, and efforts have long been directed towards overcoming this difficulty. Consequently a vast number of suture-carriers and needle-holders are on the market, of all classes, good, bad and indifferent. The following is presented by K. Czerwenka (C'blatt Gyn., 1902, No. 36) as possessing a number of advantages. The needle-holder is practically the same as that sold in this country under the name of Bull's, with the exception that, instead of two handles of uniform design, one is large, cylindrical and hollow from the catch at its base to the pivot where it joins its fellow. Into this hollow there screws a cylindrical suture-carrier, which occupies perhaps two-thirds of the length of the handle, beginning at the clasp, and the remaining third is taken up by a tube, incorporated with the cylinder and leading from it, down the handle, to a point near the pivot, where a hole is drilled. The silk, on a suitable bobbin, is placed within this cylinder after it has been unwound enough to carry a strand through this fine tube and the hole. The suture-carrier is then put into the handle and secured in position. Through the feed-hole in the handle, near the pivot, the strand of silk is drawn on indefinitely, and threaded directly through the needle. It is a very ingenious and rather simple device, with the great objection of the difficulty of determining how the supply of silk on the bobbin is running. It would appear that the time necessary to replenish and set up the instrument would be practically that which is necessary to sew up an ordinary wound in the old-fashioned way.

A New Route for Gastrojejunostomy.—The operation of posterior gastrojejunostomy has gained favor to a great extent at the present day, but it has failed to become universally adopted because of certain disadvantages connected with the route—that part of the operation which passes the bowel through the mesocolon; in other words, with the next to the last step of the operation. J. B. Hall (Lancet, September 6, 1902) says that this method is not so easy as the anterior operation, and requires a slightly larger incision. It cannot be performed outside the body cavity in the manner that the anterior operation can and by thus involving a greater peritoneal exposure it increases the risk of shock and peritonitis. Moreover the necessary perforation of the transverse mesocolon may occasion troublesome hemorrhage from mesenteric veins. As the patients on whom gastrojejunostomy is performed are not infrequently in a serious condition of exhaustion these objections to the posterior route cannot be lightly dismissed. Cases are also on record in which the operation has only given temporary relief, owing to the subsequent contraction of the opening in the transverse mesocolon having caused constriction of the anastomosing loop of jejunum. Granted, therefore, that a posterior opening in the stomach has advantages it remains a question whether the objections to the usual posterior route do not outweigh them. While operating on a case of dilated stomach some months ago the author noticed how easily the stomach wall could be reached through the gastrocolic omentum, and it occurred to him that by the advantages of this route the usual posterior operation could be avoided and at the same time the objections to it entirely obviated. The gastrocolic omentum is a thin, functionless and practically bloodless membrane, through which the finger can be easily pushed, and is readily accessible through a small abdominal incision. When the operation by this route is complete the posterior wall of the stomach remains drawn down as a funnel-shaped process, and any gastric contents can be seen passing through it when the clamps are removed. Hall adopted this gastrocolic route in four cases, and has been much pleased with it. A posterior anastomosis is obtained with a minimum of peritoneal exposure, and without interfering with the transverse mesocolon. The jejunum is drawn up in front of the transverse colon, as in the anterior operation, but there is no evidence that this is any disadvantage. It usually crosses the colon well to the left where the latter passes backward to the splenic flexure, and consequently no pressure is exercised upon it. His paper ends with a summary of four typical and successful cases of this operation, which is certainly simpler than the former method, and should give better results.

Lumbar Hernia.—This form of hernia is a protrusion through or in the neighborhood of Petit's triangle dorsi, whose size varies greatly in different persons, and exists essentially in the interval within the latissimus dorsi muscles behind and the external oblique muscles in front. Occasionally these two overlap each other at their attachment to the iliac crest, so that no triangle of Petit exists. In many cases of lumbar hernia disease has weakened he abdominal wall at this spot; in others, there is a clear history of injury. All of these herniæ have a tendency to strangulate, which was the cause of death in the very first case recorded, as long ago as 1731. Ravaton, in 1738, operated successfully on a strangulated lumbar hernia. K. W. JONES (Lancet, September 13, 1902) reports another successful operation, in a typical case of lumbar hernia. The patient was a well-developed Sudanese, forty-five years old, who noted a swelling four or five years ago, with considerable recent pain and tenderness in it, with constipation and dyspepsia. No assignable cause was given, and for some days prior to the operation he had a temperature from 99° to 100° F. On examination there was a large tumor, oval, slightly irregular in outline, extending from the level of the iliac crest inward and upward towards the spine, overlapping the three lower ribs, giving the impression of being composed chiefly of fat, but on reduction through Petit's triangle, which was easy, a gurgle occurred. Impulse on coughing was well marked. A superficial skin scar overlay this tumor and was probably made by the Sudanese for medical purposes. They are very apt to cut the skin with a razor for almost any purpose. In the opposite region there was what appeared to be another hernia, but without symptoms at the present time. The patient presented a left inguinal hernia. The operation consisted in an oblique incision downward and forward. After retracting the edges of the external oblique and latissimus dorsi muscles, the lumbar fascia was incised. Here a large mass of fat presented. The field of the operation appeared to be divided into an upper and a lower part by fibrous bands, above and below which the fatty, somewhat thickened and dilated tissue colon into the wound what thickened and dilated tissue protruded. Pulling on this tissue brought the ascending colon into the wound. The fat was removed, the colon replaced, the edges of the latissimus dorsi and the external oblique were united with silkworm gut, and the wound was closed. Primary union and uneventful recovery followed.

Tenotomy of the Tendo Achillis in Fracture.—The mechanism of displaced fragments of broken bones is at the present time much better understood than formerly, and accordingly the means of treating fractures with a view to correcting deformity have improved. W. T. THOMAS (Lancet, September 6, 1902) enters a "Plea for Tenotomy of the Tendo Achillis in Complicated Fractures" in the following terms: When the chief deforming agent is the gastrocnemius one must effectually prevent its action. In slight deformities this is readily brought about by flexion. Traction often increases the trouble or becomes irksome after a few days, even if it does not damage the skin. When the muscle is acting at a great mechanical advantage the hope that it may be overcome by steady slowly increasing traction is often doomed to disappointment. By traction of the leg in a very oblique fracture of the tibia the deformity is often increased and the attempt to remedy matters by pads often makes matters worse, for although the pointed fragments under the skin in front may be depressed the sharp end of the other fragment may be, and often is, pushed backward into the calf muscles. The subsequent result is not satisfactory. Slight degrees of flexion at the knee can be tolerated, but extreme degrees cannot. If then it is found that a position compatible with comfort does not relax the gastrocnemius the tendo Achillis ought to be divided. There is danger of forgetting its usefulness in the rage for wires and screws, and it came as a surprise to this author to read in Tilmann's Surgery "that tenotomy of the tendo Achillis is much practised, especially in England." Thomas's observation are entirely to the contrary, and he says he should have been inclined to replace the word "practised" by "neglected." Erichson is almost silent on the subject, merely quoting Bryant, but he qualifies the allusion by stating that tenotomy "might be of use" in fracture of the lower end of the femur. The more modern text-books mention the procedure, but lay no stress on its application. Jonathan Hutchinson, however, in a translator's note in "Helferich's Fractures" advocates tenotomy, and speaks highly of it in complicated fractures. It is a pleasure to see the difficulties of a case of oblique fracture disappear as soon as tenotomy is performed, the sharp projecting fragment immediately falls into line, and the subsequent treatment becomes of the simplest description and entirely free from anxiety. Tenotomy can easily be performed under eucaine, but in very nervous patients, nitrous oxide or even other anesthetics, may be necessary. The author has only had occasion to tenotomize the tendo Achillis 12 times, but in each case any other treatment short of wiring or screwing would have resulted in faulty union. Even after wiring fractures of the lower extremity, if any great gastrocnemius strain acts on the wire the tendon ought to be divided, otherwise the wire (or screw) will quickly loosen by bone-atrophy. Long before the patient is up the tendons have united, and it has never been found necessary to keep oblique fractures longer in bed than transverse fractures.

EYE, EAR, NOSE AND THROAT.

Epithelium of Eyelid Cured by Adrenaline Chloride.—A curious case is reported by W. B. Marple (Med. Rec., August 23, 1902) in which the use of adrenaline as a placebo unexpectedly resulted in the cure of an epithelioma of the eyelid. A woman forty-five years of age gave a history of having had a characteristic ulcerating epithelioma for six months, and microscopical examination confirmed the diagnosis. While awaiting a more favorable time for operation the adrenaline was used, and in about six months the growth had entirely disappeared, leaving a small white scar. The diminution of blood-supply is given as a possible reason for the unexpected successful result.

Pterigium and Cauterization.—About a year ago A. Coe described a simple procedure in the treatment of pterigium, consisting in cauterization of the head of the membrane by means of a platinum wire, with a fine bulbar end, not larger than a very small pea, and heated in an alcohol-lamp. This author stated that he succeeded in obtaining practically complete cure in an extensive pterigium by three cauterizations of this kind, carried out at intervals of a few days. At the end of several months it was possible to make out only a light opacity, corresponding with the thickening in the conjunctiva, while the nearer tissues were entirely transparent. Since then another observer, F. B. LORING (Sem. Méd., No. 34, 1902), has employed this same treatment in 24 cases, with invariably good results, excepting in one patient, who presented a very extensive pterigium with large vascularities. For this he was finally obliged to employ ligature. For his cauterization this author employs a platinum-wire loop about three mm. in width, mounted in a wooden handle. After having used cocaine in the eye for anesthesia, he touches the head of the pterigium with the convexity of the loop, heated to a white heat. He then moves the handle of the needle in such a manner that the balance of the instrument is parallel with the axis of the pterigium. In this manner it is usually necessary to practice one cauterization only, especially if care is taken to have the patient follow the preliminary treatment advised to decrease the vascularity of the membrane, for example, yellow oxid of mercury ointment. It is also good practice to use this medicine during the first few days after cauterization.

Ocular Manifestations of Diabetes.—Ocular disease of diabetic origin may be manifest in patients known to be diabetic, or may furnish to the ophthalmologist an indication of the systemic condition, unsuspected before examination of the eye, according to L. THILLIEZ. (Jour. Sci. méd. Lille, August 16, 1902). Skin-lesions, such as furuncles, eczema, etc., occurring upon the eyelids may, by their persistence or recurrence, suggest their origin. The ocular musculature, intrinsic and extrinsic, is often the site of lesions of diabetic origin. All the muscles may be paralyzed, but those supplied by the motor oculi are most frequently affected. Such paralysis usually subsides in a few weeks, when occurring in the earlier stages of diabetes, but in more advanced cases is rarely cured, being due, as a rule, to apoplectic hemorrhage. Paralysis of the pupillary sphincter is an early manifestation and is a consequence of intoxication. Repeated or prolonged conjunctival hemorrhage is met with; examination of the urine and the effect of diet and systemic treatment leaving no doubt as to its cause. The cornea is not spared in glycosuria, and here keratitis, from defective occlusion of the eyelid through orbicular paralysis, may be found. This is not to be confounded with suppurative keratitis of neuroparalytic origin, depending upon a diabetic lesion of the trigeminus. Iritis is one of the most frequently observed lesions in diabetes, and may occur in various forms, from a simple membrane covering the pupil, and which disappears readily under the influence of an appropriate regimen, to abundant fibrinous exudate upon the pupil and in the anterior chamber, with hypopyon and severe pain. Iritis may be quickly complicated with glaucoma. The most frequent ocular affection in diabetes is cataract. This may be of very rapid development (within a few days or even hours), especially in the young or in acute pancreatic diabetes of adults with rapid emaciation. There is no one characteristic which is pathognomonic of diabetic cataract, but it is always double. Opacities of the vitreous and retinitis occur, the latter presenting two typical forms, exudative and hemorrhagic. The most common diabetic lesions of the optic nerve are those of retrobulbar neuritis. Disturbances of accomodation and refraction are common. Thilliez believes that ocular lesions in diabetics are of serious import, as they are thought to be the result of vascular changes, toxic influences, or general deterioration of the organism. As to the prognosis of the various lesions, the author states that phlebitis of the ophthalmic vein alone renders inflammatory affections of the eyelid of grave significance. Muscular paralyses are serious if resulting from hemorrhage, as they are never fully cured, and suggest the possibility of cerebral hemorrhage. Retinitis and choroiditis are of serious import in that they are too often precursors of cerebral hemorrhage. Affections of the optic nerve are serious from their effect upon vision, and as an indication of the advancement of the disease. The prognosis of cataract in the young is always poor. The treatment of ocular lesions in diabetics is to be directed first of all to the cause; local treatment does not differ from that applied to similar affections in those otherwise healthy. The question as to the advisability of operation is answered in the affirmative by the author, who recommends the reduction of sugar to a minimum before operation, by appropriate diet, or by medication when necessary. The greatest diminution of sugar has been obtained by Thilliez through antipyrin, two or three grams in 24 hours, given for 10 days prior to operation. No ill effects arise if the drug be administered at the beginning of meals.

THERAPEUTICS.

Value of Ipecac.—The drug ipecac is discussed in an article by R. KOBERT (Ther. Monatsh., August, 1902) who distinguishes two genuine varieties, possessing three alkaloids; namely, emetin, cephalin and psychotrin. The last is present in only small quantities, is slightly poisonous and of not much therapeutic importance. The other two are strongly irritating to the skin and mucous membranes, yet when injected do not cause necrosis or abscesses, being absorbed too rapidly, but show deleterious effects upon heart, gastro-intestinal tract and kidneys. They should, therefore, be administered by mouth. Emetin is then the better expectorant, and cephalin the preferable emetic. Since the Carthagena ipecac contains twice as much cephalin as the Rio drug, it is the superior emetic, but it is also depressing to the heart, hence might well be employed locally by means of gargles. The antidysenteric action is supposed to reside in a glucosid, ipecacuanhic acid.

Treatment of Dysentery with Ipecac.—The efficacy of ipecac in dysentery is a long and well-established fact, but owing to the many synthetic remedies the drug is being employed less and less. J. STRASBURGER (Münch. med. Woch., September 9, 1902) is among those who laud it highly, for he has had a number of cases of amebic dysentery which have resisted all treatment until ipecac was tried. They were all acute exacerbations of a long-standing process, and the dose was one gram of the Rio article, with a full dose of opium, twice daily. Though in one case emesis followed, the effect was prompt and permanent, and in only one instance did a real relapse occur. That was several months later, and the relapse could readily be controlled. Further investigations on ipecac showed that, while it may be a specific for the amebic variety, it has little or no effect on the bacillary form.

Heroin as Anaphrodisiac.—Outside of its value in pulmonary diseases, there is only one account in literature of the efficicacy of heroin in other (gynecological) conditions. This has led A. STRAUSS (Münch. med. Woch., September 9, 1902), a specialist in genito-urinary diseases, to try it in his branch, and he is well satisfied with his results. In the frequent nocturnal pollutions of young men, followed by headache and backache in the morning, one cg. of heroin, taken at night, combined with the usual precautions of sleeping on a hard mattress, etc., was of distinct value. Sexual neurasthenia with impotency and spermatorrhea, the result of sexual excesses and masturbation, did not yield quite so readily, and other remedies had to be combined with the heroin. With a third group, the various painful complications of acute and chronic gonorrhea, much better results were obtained, especially when the drug was given as a suppository. In the painful erections which follow phimosis operations and interfere with the healing, heroin often acted more promptly than sulfonal or the bromides. The author concludes that heroin is to be regarded as a valuable though not indispensable accessory in urological practice.

THERAPEUTIC HINTS.

Fetid Sweating.—
℞ Zinci sulphat.
Ferri sulphat...........aa gram 45.0 (℥iss)
Naphtol.
Essence Thymi.
Acidi hypophosphori....aa gram 0.5 (gr. viij)
Aquæ ....aa gram 250.0 (℥viij)
M. Bathe the parts morning and evening.
—TSHAPPE.

Hemorrhagic Metritis.—This condition generally follows a miscarriage or accompanies the small submucous or interstitial fibroma, writes F. LANDRY (Rev. méd., Can., August 6, 1902). If there is retention of placental tissue, or if there are fungosities, curettage is the only treatment, but in many ordinary metrorrhagias success will follow intra-uterine applications of tincture of iodin by means of a syringe, after the cervix has been dilated and the uterus swabbed out with an antiseptic. The patient should remain in bed about five days, though in some cases this is not necessary if the vagina is packed with iodoform gauze or glycerin tampons.

Acute Nephritis.—Absolute rest in bed, the legs wrapped in cotton covered with oiled silk. Exclusive milk diet; a glass of milk and Vichy water every two hours. Hot drinks to produce sweating, especially infusion of juniper-berries. Apply three wet cups to the lumbar region. Give saline purgatives to promote excretion by the intestine. Administer
℞ Cinchoninæ sulphat.......gram 0.12 (gr. ij)
Benzonaphtol ....gram 0.30 (gr. v)
One three times a day in cachet.
—*Le Nord Médical,* August 1, 1902.

Treatment of Thrush by a Sucking-Bag.—Take a tampon of aseptic cotton, impregnate it with powdered boric acid and a little saccharin, inclose in a silk or cambric sac, sterilize, and place in the infant's mouth. Under the influence of sucking the boric acid slowly dissolves, and so has a direct and continuous action on the saccharomyces albicans. If the fungus growth is extensive this treatment may be supplemented by buccal irrigations. A very prompt cure results.
—ESCHERICH in *Le Nord Médical.*

Zoster.—The treatment has a triple object, to cure the vesicles, to prevent suppuration, and to quiet the neuralgic pains. Ichthyolgelatin, thiol- and water-soluble varnishes are good applications. Neisser uses collodion and iodoform, Dupus and Scharff employ resorcin. Silver nitrate is not without danger. If the bullæ are confluent or ruptured a powder or paste is indicated, such as oxide or oleate of zinc, or these with ichthyol as recommended by Unna, or thiol, 10 to 20 per cent., as used by Buzzi. Lassar prefers nosophen, Franck uses tannoform. A good powder is
℞ Ac. tannici.
Bism. subnit...... aa gram 2.0 (gr. xxx)
Zinci oxid.
Amyli .... aa gram 5.0 (gr. lxxv)

If the powders irritate, substitute a paste of zinc ointment and starch, with or without ichthyol or resorcin. The following is the formula of Kaposi:
Ext. opii..................gram 0.4 (gr. vij)
Ol. olivæ.................gram 20. (ʒv)
Ceræ flav.................gram 10. (ʒiiss)

That of Leistikow is:
℞ Ac. boric.................gram 2.5 (gr. xxxviii)
Cocain. hydrochlor...... gram 0.5 (gr. viii)
Petrolati ....gram 22. (ʒvss)

If gangrenous or suppurative, apply wet compresses, followed by powdering with iodol or iodoform. For the pain one may employ morphine, chloral, belladonna and quinine hydrobromate.

Schoemaker advises:
℞ Ferri pyrophos............gram 2.0 (gr. xxx)
Ac. arsenios...............gram 0.06 (gr. i)
Quin. sulfat...............gram 2.0 (gr. xxx)
M. Ft. in 30 pil. Sig: One three times a day.

Jamieson recommends 20 to 40 drops a day of:
℞ Tinct. nuc. vom.
Tinct. gelsemii........aa gram 5.0 (♏lxxv)

Kaposi vaunts arsenic and antipyrin.
—*Le Nord Médical,* August, 1902.

Mercuric Cataphoresis in Chronic Inflammation of the Uterine Appendages.—In two classes of cases, catarrhal inflammation of the Fallopian tubes in young women, usually with involvement of an ovary and chronic pelvic peritonitis, G. BETTON MASSEY (Jour. Adv. Ther., September, 1902) uses a metal positive electrode coated with mercury for insertion in the vagina, and applies the negative electrode to the abdominal wall. The treatment should be applied daily or triweekly. By the second month there is a diminution or suppression of the menstrual flow, but this soon returns to normal, though somewhat scant during the further continuance of the applications. The current used is 60 milliampères for five minutes. Complete relief from pain is secured in a few weeks to a few months.

Dry Hot Air in Nephritis.—Having noted a rapid disappearance of albumin from the urine in cases of nephritis which were being treated by hot air for rheumatism and arthritis deformans, C. E. SKINNER (Jour. Adv. Ther., September, 1902) applied this treatment to strictly renal cases. As a rule asthma, edema, nausea, headache, and somnolence rapidly disappear, and the renal insufficiency seems overcome. How permanent the results are he is not yet able to state. Most of these cases have thickened arteries and a tension pulse, so the heat should be increased very slowly. The tension usually disappears during or after the first baking. The temperature of the first treatment should be 300° F., unless contra-indicated and in succeeding treatments 350° F. The regular diet should be milk, and plenty of water should be drunk. The bakings should be repeated every two or three days. Nothing else seems to have such a rapid effect on the general toxemia.

Erysipelas.—By a wad of cotton held in forceps and lighted after it has been dipped in alcohol Tregubow produces a burn of the first degree. He repeats the application two or three times a day, exposing the entire affected surface to the flame, and finds about two days sufficient for a complete cure of erysipelas.—*Jour. Am. Med. Assoc.*

Therapeutics of the X-Ray.—The curative power of an X-ray tube has frequently been judged by its ability to make a burn, but C. R. DICKSON (Jour. Adv. Ther., September, 1902) finds that the production of dermatitis is unnecessary, undesirable, and can usually be prevented. In lupus vulgaris, rays applied to a moist surface lessen the discharge and change it from serous to purulent; applied to dry surfaces, the epidermis exfoliates and the part appears shrunken; in either case absorption of morbid products takes place leaving a smooth, soft, pliant scar. Of malignant growths some are cured, and most are reduced in size and freed from disagreeable odor and discharge, while the patient is relieved from pain and improved in general health. By causing partial atrophy the ray is used to produce depilation in sycosis. Tuberculous joints and sarcomas have been improved. The author used the rays over the solar plexus with good effect in a case of neurasthenia with gastric symptoms.

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MEDICAL PROGRESS AND THE ARMY MEDICAL DEPARTMENT.

The publication recently of a series of articles with regard to "Surra," the disease that has been destroying so many animals in the Philippines, calls attention once more to the excellent work that has been accomplished by the army medical department of the United States since the many and serious pathological problems of our recently acquired tropical possessions have been so unexpectedly thrust upon its attention. A review of the wonderful progress made with regard to the prophylaxis of contagious diseases, and the practical application of sanitary principles that in a very brief space of time has effected a hitherto unprecedented reduction of the death-rate among the recently annexed populations seems almost too favorable to be true. The people of the United States have indeed cause to be proud of what has been accomplished from this humanitarian standpoint since expansion became the national policy. The medical profession of this country may well feel honored by the great practical advances made by the army medical department. If nothing else had been done but the discovery of the mode of transmission of yellow fever by a special mosquito, many times more lives would have been saved in a few years than were lost in the war; but this is only one of many valuable practical observations that have been made. For instance, more light has been thrown on the specific causation of dysentery than in many years preceding the outbreak of the war.

To know the cause of disease is very soon to be able to prevent its spread, and it seems probable that dysentery will not much longer be the serious scourge it has always been when large bodies of men are gathered together in barracks, camps, and the like, especially in hot climates. With regard to malaria excellent work has also been done, and the European medical world has admired the thoroughly practical way in which this great question of the limitation of malaria has been approached. Major Ross, the English authority on the subject, recently commended the example of our Government in this matter to the emulation of British military medical men. It begins to look now as though within a very few years, with malaria and dysentery under thorough control, and yellow fever practically eradicated—for there has been none in Havana for some time—the tropics may lose their dread fatality for the white man.

Other important sanitary reforms have been accomplished. The peculiar anemia that afflicted an alarmingly large number of the inhabitants of Porto Rico, and which was claiming an increasing series of victims every year, was thought to be due to some special pathological climatic or soil condition of the island. It has been demonstrated to be caused by the Anchylostoma duodenale, an intestinal parasite that has been shown in recent years to exist in many parts of the world. Instead of being a hopelessly progressive affection, this anemic condition is eminently tractable if taken in time. In fact the use of thymol as an internal parasiticide, followed by a cathartic, usually rids the patient of the affection.

The discovery that Malta fever existed in the West Indies as well as in the islands of the Mediterranean threw a new light on a disease hitherto supposed to be very limited in the range of its epidemicity. This discovery served also to lift the veil of obscurity that shrouded certain fevers, suspect of both malarial and typhoid origin, seen in our hospitals in this country in patients who had recently come from the West Indies. In nearly the same way the study of "Surra," which rages among the animals of the Philippines, and is caused by the sting of a special fly, helps to a better understanding of certain diseases in South Africa that are due also to the stings of various forms of flies. In these observations the American military medical men have been making deservedly commendable contributions to world medicine, and the army medical department has established for itself a proper share in that praise for enterprise and ground-breaking ingeniousness that Europeans have of recent years learned to recognize as characteristic American qualities.

It is with no selfish spirit of complacency that we are proud to publish the reduction in the death-rate of Havana from 91.03 during 1898, the last year of the Spanish possession, to 22.11 for 1901, the last full year of American occupation. This stupendous difference in the sanitary condition of reputedly one of the most unhealthy municipalities of the world was accomplished by the proper enforcement of modern sanitary regulations in less than three years. As an example of what can be accomplished even under unfavorable conditions, this hygienic advance must be set down as a great triumph for present-day sanitary science. It is, perhaps, somewhat unfair to compare the death-rate during the war-year with that of a year of peace, but the average death-rate of Havana for the ten years preceding American occupation was nearly 45, while for the last three months of United States rule before the government was handed over to the Cubans themselves, in April of the present year, the death-rate was scarcely more than 17.

The army medical department is at the present moment facing very serious conditions in the prevalence of plague and cholera in the Philippines. Already, however, not a few additions to our knowledge of these diseases have been made by the members of the department, and there seems every reason to anticipate that the work so nobly and effectively accomplished in the West Indies will be emulated in our eastern archipelago. Already the study of intestinal parasites there has served to throw light on forms of disease that had remained obscure for generations. It would not be beyond what might be expected from recent records elsewhere if the United States military medical men should succeed in solving the problem that has now for over seven years baffled the efforts of the English, French and Russians—the suppression of the plague, which every year since 1895 has caused hundreds of thousands of deaths in the East.

Certainly our army medical men are deserving of unstinted encouragement in this as in every other effort. Much as our army and navy have done to increase our prestige in recent years, the army medical department has almost done more. Those who would make little of their work, who would fail to realize the meed of appreciation and recognition it deserves, are consciously or unconsciously striving to undo the influence of one of the most humanitarian twentieth-century factors of progress. No reward can well be considered too great, and no encouragement for the enlistment of the best possible individuals in the work can be deemed misplaced or exaggerated. It is to be hoped that general appreciation of the work done by the department will be one of the features of popular education in the near future, and that this will prove an effective stimulus to proper legislation, which unfortunately has been thus far neglected.

THE MEDIAN AGE.

The table that has been prepared by the Census Bureau to show the increase of the average age of the population is a most interesting exhibit, as it demonstrates the fact that the average *is* increasing, and that people live longer, even under the harrow of a greater nervous strain and tension than they did in the more primitive and less sanitary days of our forefathers. It also goes to show that improved plumbing and heating appliances have offset the effects of increased application to business affairs, and that the results of modern cookery are as nutritious, even if they are not as reminiscent, as the pies that our mothers used to bake.

In the last volume of the census this increase was shown from 1880 to 1900 by computing the average of the population of the United States. In 1880 this was 24.6 years; in 1890 it was 25.6 years, while it had risen in 1900 to 26.3 years. As, however, the ages of the population were not reported by single years before 1880, this method of measurement cannot be applied to the results of previous censuses. Another mode of getting at the age of a large population is by the use of the "median" in place of the average in its ordinary form, the median age being one in which half of the population is over it. This may be computed very accurately for a population the ages of which are reported only by five-year periods, if we assume that the population within the five-year group containing the median was distributed among the five years in the same proportion that existed in the same age class in 1900. By the aid of this assumption it has been possible to obtain the median age of the population of the United States for censuses prior to 1880, as the following table will prove.

Date.	Of Total Population.	Of White.	Of Colored.
1900	22.8	23.4	19.7
1890	21.9	22.4	18.3
1880	20.9	21.3	18.0
1870	20.1	20.4	18.5
1860	19.4	19.7	17.6
1850	18.8	19.1	17.3
1840	17.8	17.8	17.3
1830	17.2	17.2	16.9
1820	16.7	16.5	17.1
1810	...	16.0	...
1800	...	16.0	...

This table shows that in the median age of the white population during each decade from 1810 to 1900 there was an increase amounting in the ninety years to 7.4 years, or an average of almost five-sixths of one year in every ten. The median age of the colored population, which includes negroes, Indians and Mongolians, increased after 1830, but not so regularly, it being the same in 1840 and 1850, while the age for 1880 and 1890 was lower than that of 1870, and not much higher than that of 1860. The median age for 1870, however, may have been, and probably was, greatly affected by the serious omissions in the count of the negro population of that year. As will be seen, this median age of the colored population increased 3.0 years in the seventy-year period, that is, from 1830 to 1890, or only about half as fast as the whites. But during the last twenty years of the century the increase for the two groups has been about the same, namely, 1.9 years for the colored and 2.1 for the white. The most marked increase of the latter was in the period of 1840-1850, and was probably due to the advent of a large number of adult immigrants which raised the median age.

The statement concludes as follows: "Many complex influences have cooperated in producing as a resultant this steady change in the age composition of the population. Three may be mentioned. The rapid progress of medical and sanitary science, which has tended to increase the average length of life; the decrease in the relative number of children born, which has made the earlier age periods less preponderant numerically in the total population, and the influx, especially since 1840, of great numbers of adult immigrants, increasing the number in the older age periods. The difference between the white and colored population is doubtless due to the fact that these influences have wrought more powerfully upon the white race than upon the colored."

This report was prepared by the statisticians of the Census Bureau in a most original and careful manner, and it strikes us as both valuable and interesting. At any rate, it is not told "in mournful numbers," nor does it show that "life is but an empty dream."

DIPHTHERIA BACILLI IN THE HEALTHY.

Decidedly a practical and interesting document is the report of the committee appointed by the Massachusetts Association of Boards of Health to investigate the question of the presence of diphtheria bacilli in the throats of well persons, and determine the most suitable course of action to prevent the spread of the disease by such individuals. It is very generally recognized now that many persons in good health carry about in their mouths bacilli that cannot be differentiated by any known bacteriological test from the microorganisms that cause diphtheria. According to the data collected by this committee, at least two in every hundred well persons, not more than ordinarily exposed, thus carry diphtheria bacilli. Of those who have been recently in direct contact with diphtheria patients a much higher proportion—at least one in ten, and at times even one out of every two or three—have the bacilli in their throats. In institutions where diphtheria is epidemic nearly every inmate's throat will give positive cultures.

How serious a danger such a state of affairs presents is readily apparent. Fortunately many of the diphtheria bacilli from the throats of the well are found to be lacking in virulence. It can not, however, be argued that because they have failed to produce the disease in their present hosts they are therefore incapable of producing it in others. The committee state as their conviction that a number of correspondents have reported instances in which it seems very certain that the communication of diphtheria by well persons actually took place. There is no doubt that the diphtheria bacilli, so often to be found in the throats of those who are in immediate contact with diphtheria cases, are usually very virulent. Hence the necessity for special precautions with regard to such persons.

The question of the virulence or non-virulence of diphtheria bacilli found in the mouth-secretions is bound up with the unsolved problem of the existence of forms practically indistinguishable from the Klebs-Löffler bacillus by any bacteriological test at present known, yet incapable of proving pathogenic, at least for human beings. There are many who believe in the existence of a pseudodiphtheria bacillus. Bacilli of this form are ordinarily described as occurring in shorter rods than the true Klebs-Löffler bacillus, and as taking the stain more solidly, so that there are no irregularly stained bands in them. But so far boards of health have hesitated to accept this teaching as positive enough to justify definite application to sanitary regulations. When bacteriological knowledge on these disputed points shall have become more settled, then something of present uncertainty in the action of sanitary authorities will be eliminated.

Meantime, there remains the great practical question, What is to be done with well persons who carry what are presumed to be virulent diphtheria bacilli in their throats? In regard to this, the committee suggests a compromise in practice, because of the uncertainties of present knowledge and the inconveniences attached to rigid enforcement of segregation. Those who are not in close contact with diphtheria, but who yet seem to carry diphtheria bacilli, may be neglected, since in such cases there is good reason to doubt the virulence of the micro-organisms. For those exposed recently to diphtheria some precautions are necessary. For adults, instruction as to the danger they may inflict upon others seems to be as yet the only sanitary regulation that can be enforced. They should be warned especially of the necessity for the most scrupulous cleanliness, and should not permit children to caress them or even to come in contact with their hands. Especially when such a person has a cough must precautions be taken to prevent the dissemination of the bacilli about living-rooms. This can be done by the use of cloths, which should be immediately burned. Everything that comes into contact with the secretions of an infected person's mouth should be sterilized before being handled by others. The observance of these precautions will so minimize the danger of infection as to make it practically negligible.

With regard to children recently exposed to diphtheria infection and shown to have bacilli in their throats, the case is different. It is impossible to secure in them execution of the precautions suggested; and, besides, children are much more likely than adults to spread infection. They are constantly putting their hands and toys into their mouths; in playing, they touch one another much more frequently, and they continually handle each other's belongings. All this predisposes to the conveyance of contagious material whenever it is present. In a crowded tenement-house, to permit the well children of a family in which diphtheria exists to come in contact with other children is almost inevitably to spread the disease. Ignorant adults who resemble children in their neglect of cleanliness are quite as likely to prove disseminators of the infection. They also must be restrained from harming others.

This report is eminently suggestive of methods whereby, without imposing too much inconvenience on the well members of a family in which diphtheria exists, we may limit to a great extent the spread of the disease. It brings out very forcibly once more the truth that contagion in times of epidemic is not in the air, and is not carried about by winds, but that the means of distribution is almost always some biological factor with regard to which the enforcement of simple precautions may prove of great sanitary service. This coordinate work of the Massachusetts boards of health has so much of promise in it that similar bodies in other states should be stirred to emulation of New England's zeal for the common well-being. The temperate conclusions reached in this case should serve as a model to others. Reasonable efforts to control are much more likely to prove effective than would be any attempt to enforce stringent regulations.

ECHOES AND NEWS.

NEW YORK.

New Hospital for Deaf and Dumb Sick.—Plans have been filed with the Building Bureau for a new three-story hospital to cost $100,000, to be built on the grounds of the New York Institution for the Instruction of Deaf and Dumb at Boulevard Lafayette and 165th Street for the treatment of the deaf and dumb sick. It is to be of brick and steel, 34.8 feet front and 154.5 feet deep, with an extension 28.8x 42.6 feet.

The New York Academy of Medicine.—The Section on General Medicine will hold a Stated Meeting Oct. 21. The order will be a symposium on typhoid fever—a series of short contributions. I. Paper: "The Etiology and Prevention," by Herman M. Biggs, M.D. II. Paper: "The Symptomatology and Clinical Diagnosis," by Chas. E. Nammack, M.D. III. Paper: "Laboratory Aids to the Clinician," by E. E. Smith, M.D. IV. Paper: "The Chemical Nature of the Bacillus Typhosus," by Lewis R. Morris, M.D. V. Paper: "The Treatment," by Hobart A. Hare, M.D., of Philadelphia. VI. Discussion by Drs. Geo. B. Fowler, Leonard Weber, W. H. Thomson, R. Vansantvoord, H. W. Berg, Andrew H. Smith, James Ewing, A. Jacobi, the Chairman and others.

Senior Doctors on Ambulances.—By a new rule which goes into effect this week, the ambulances of Bellevue, Gouverneur, Harlem and Fordham Hospitals will be in charge of senior doctors, instead of juniors who have just graduated from medical schools and who have had no hospital experience. Complaints of inexperience have been made, and these led Dr. Stewart, Superintendent of Bellevue and Allied Hospitals, and Dr. Brannan, Chairman of the Board of Trustees, to bring the matter to the attention of the trustees. The new rule was the result. As there are on an average 1,000 cases in Bellevue daily, a doctor in the course of six months has a training that it would take years to acquire elsewhere. By putting these experienced doctors on the ambulances it is believed that the service will be greatly strengthened and mistakes and erroneous diagnoses avoided. This step is a wise one, but we may still expect the yellow journals to howl about what they may please to call incompetent ambulance surgeons.

Gov. Odell and the Charities Bill.—According to the Utica Press, "Gov. Odell's greatest mistake, and the one which will return to plague him most in this campaign, was committed when he listened to certain of the Lunacy Commissioners and endorsed the Brackett (judiciary) bill, which raised such a storm of discussion last winter. Believing the representations made to him by those interested in their own rather than the public welfare, he championed a bill that was without merit. Undoubtedly, had he known at the outset what he learned later, his record would have been different. He was at fault in that, having a better appreciation of the situation, he did not withdraw his endorsement. That is the one great blunder of his administration. It is fair to him to say that there is no indication that he has sought by any interference at Utica to profit politically by that unfortunate piece of legislation." With this opinion the Medical News is largely in accord. The whole cheese-paring attitude of the Governor has worked untold discomfort to the dependent classes and to those who have them in charge.

Dr. Peterson's Plans for a Psychopathic Hospital.—Something like 1,500 persons are committed to the Manhattan State Hospital on Wards Island every year, most of them in the first stages of insanity. It is declared that many of these could be treated and benefited if not completely cured in a hospital. According to the State Commission in Lunacy, every patient discharged from a hospital, by recovery or otherwise, means a gain to the State of $550. Dr. Peterson, in describing the workings of such a hospital, says: "The hospital for the acutely insane should be located, just as general hospitals are, in the most populous portion of the city, so as to afford convenient access from every quarter. It should have an outdoor department or dispensary, where mental cases may be seen in the very earliest stages. It should have its staff of internes and its attending or consulting physicians and surgeons, a well-equipped laboratory, an auditorium for teaching, and opportunities should be given for the professors in medical schools in the city to utilize the hospital material for the instruction of students and physicians in the still neglected specialty of psychiatry. Patients should be received for diagnosis as emergency cases without commitment papers, legal forms to be made use of only after a specified time has and when it becomes evident that long detention will be necessary. Such psychopathic hospitals as I describe are now organized in every university town in Germany." The Medical News most thoroughly endorses Dr. Peterson's plans, and hopes to see New York soon equipped with suitable psychopathic hospitals.

The Criminal Insane in New York.—The forty-second annual report of Dr. Henry E. Allison, Medical Superintendent of the Matteawan State Hospital, for the year ended Sept. 30, 1902, has just been issued. Under the present provisions of the State law no male inmates of penal institutions can be admitted who become deranged while serving sentences for felonies. The only male convicts who can now be admitted are those who have been declared insane while undergoing sentences for petty offences. The number of female prisoners in the State is exeremely small, and no change has been made in the custody of those who become insane. All females from penal institutions are received as heretofore, regardless of the nature of their crimes. During the year 14 convicts, whose sentence had expired, but who still were insane, were transferred to other State institutions. On Oct. 1, 1901, there were 752 patients, and 59 were admitted during the year. During 1901 there were 206 discharges or transfers, reducing the number of inmates to 605. One man who escaped was captured. There were 18 deaths at the hospital in the course of the year. Nineteen patients recovered their reason. The ratio of recoveries, based on the average daily population, is nearly three per cent. It is said that recovery among criminal insane, especially court cases, is extremely small. Those criminals adjudged insane are compelled to endure a longer confinement than the average term in penal institutions. All the clothing, with the exception of stockings and hats, is manufactured by the inmates, and the weekly per capita cost of maintenance, based upon the daily average of population, was $3.60.

The City's Health and Clean Streets.—Street Cleaning Commissioner Woodbury asked the Board of Estimate last week to increase his appropriation by $450,266 for 1903, making it $5,603,113; and to back up his request he laid before the board proofs of atmospheric conditions over streets in the different boroughs. These proofs were photographs of the air, showing the comparative volumes of bacterial colonies in selected neighborhoods. In the select district of 68th Street between Park and Madison Avenues, the plates showed only five colonies of bacteria. In the thickly populated tenement-house neighborhood of Stanton Street between Pitt and Ridge streets, there were no fewer than 9,600 colonies on the plate. Both these streets were asphalted and the experiments went to prove that while in the streets where there was little traffic the atmospheric conditions were comparatively pure, in the thoroughfares where traffic was congested and heavy the air was laden with bacteria. The report submitted to Commissioner Woodbury by his experts contains the following conclusions:

"The first point to be noted is that the air for the first foot above the pavement is, as would naturally be supposed, the most dangerous. Secondly, the effect of traffic as a distributor of bacteria should be noted in two ways. The vibrations and disturbances caused by the passage of a slow-moving heavy truck have the effect of loosening the dust and the street dirt in the interstices of the pavement and on the surface. This is more or less true of all traffic but especially so under the conditions mentioned. Light and rapid traffic creates air currents which pick up the dust and dirt and foul of the air. Rapid and heavy traffic such as street cars act both as looseners and distributors of the dirt. This is especially true of electric cars, which hug the surface and make strong currents of air. The surfacing of the streets, therefore, should not only be as clean as possible, but the dust should be so treated as to resist the effort of traffic to disseminate it. Washing the streets would, therefore, appear to be the proper method to overcome the bad effect of traffic."

Commissioner Woodbury says that it is the first time in the history of the Street Cleaning Department of any city that the authorities have resorted to scientific aid to discover the most effective means of cleaning thoroughfares in which there is a difference of conditions. The results which the experts obtained, he says, will enable him to institute a new system of street cleaning which will thoroughly cope with the differing conditions of the city's thoroughfares. But to carry out this work he needs more money.

The increase in the account of administration is due to increased number of district superintendents, foreman and 133 additional sweepers. When it is explained that the department hauled from the small district bounded by the Bowery, East Houston street, the East River and Broome street, in the months of January, February and March of this last year, 19,289¾ loads of material, and from this same district there is picked up by hand from the streets 16 tons of garbage a day, and that this garbage is not collected from the cans placed in front of the houses, but actually picked from the sidewalk and between curb and curb by the sweepers, it shows the enormous amount of work that must be done in this district. The conditions here are demonstrable by means of the photographs of the air which have been taken by the department, the microscopical study and development of the colonies of bacilli done by Prof. Ewing of Cornell University. These photographs taken at the curb line and at six feet above show very distinctly bacilli of putrefaction. They also overlie in great measure and mass the pathogenic bacteria which undoubtedly are also present. The death-rate in this district has greatly decreased during this year, and by stripping some of the less densely populated parts of the town of sweepers the department has been able to better the conditions, but the presence of these multitudinous colonies of bacteria shows actually what there is at hand.

PHILADELPHIA.

Mausoleum for Dentist.—Plans are under way for the erection in Woodlands Cemetery of what it is claimed will be the finest private mausoleum in the world for the late Dr. Thomas W. Evans, the noted Paris dentist, formerly of this city. No steps have yet been taken in the way of founding the Evans Dental College or museum, for which the residuary estate was bequeathed.

Typhoid Outbreak Among Soldiers.—Typhoid fever has appeared in the camp of the Twelfth Regiment, which is stationed at Shenandoah. More than 30 cases have occurred during the past two weeks. A special session of the Shenandoah Board of Health developed the fact that there were no cases of the disease among the civilians in the borough. An inspection of the camp showed that all sanitary precautions were being observed. The location of the camp will soon be changed.

Opening of Medical Colleges.—On October 1, three medical colleges began their work for the year, the University of Pennsylvania having begun its session the week previous. At Jefferson the introductory lecture was delivered by Dr. Henry C. Chapman, at the Medico-Chirurgical College Dr. F. Savary Pearce gave the principal address. The new dispensary and laboratory building was also formally opened. The 54th session of Hahnemann College was begun with addresses by Dean Pemberton Dudley and Dr. T. L. Chase.

Sanitary League Would Fine Expectorators.—To guard the public from danger of contracting contagious diseases from expectoration upon sidewalks and public conveyances, the Women's Sanitary League of Pennsylvania has presented to Select Council an ordinance prohibiting such an act. Violation of this ordinance subjects the offender to a fine of $5. Prohibitory signs have been posted in street cars and public buildings for some years by the Board of Health, but this is the first move toward exacting a penalty.

German Hospital Superintendent Resigns.—Dr. Carl Frese has resigned as Medical Superintendent of the German hospital, a position he has held during the last 14 years. Dr. Frese accomplished much in improving the service of the hospital. He organized there a medical society for resident and ex-resident physicians, which met weekly and discussed a paper prepared by one of them. Dr. Frese had charge of the first hospital train sent from Pennsylvania during the Spanish-American War. Dr. Henry Page is Acting Superintendent at present.

Percentage of Cures Among the Insane Increasing.—The annual report of the State Hospital for the Insane at Norristown shows a gratifying increase in the percentage of recoveries. The mortality for the year just ended also shows a considerable decrease. The percentage of recoveries among the 176 male patients admitted during the year ended Sept. 30, 1902, was 37.5, as against 16.5 for the previous year. The percentage of recoveries among the total number of male patients 1,272, was 5.2, as against 3.4 in 1901. Deaths were 24 less than last year. The female department also showed better results than during the preceding year.

Hospital Buildings Unheated.—The new children's hospital and the building for skin and venereal diseases at almshouse are nearing completion, but neither these nor the maternity hospital, which was completed a month ago, can be used because of the lack of heating facilities. It is said that when the plans for the buildings were prepared no provision for heating apparatus was made. Who the responsible party was cannot be said, though rumor blames a former official of the institution. It is a fair sample of political instead of business management. Application for $25,000 will be made in order to complete the buildings, which are badly needed.

Clinics for Poor Consumptives.—The Free Hospital for Poor Consumptives proposes to establish throughout the city several clinics for the treatment of poor consumptives who, by reason of their employment, are unable to devote the time required for their treatment in a home or hospital. The hospital will also distribute throughout the city, particularly in the slum districts, pamphlets defining the cause of the disease and explaining the methods of precaution to be observed against its spread. Efforts will be made to carry these movements into other towns of the State. An important aid in the State campaign against tuberculosis is the gift of a house that stands near the summit of the mountain at Kane. This was donated by Mrs. T. L. Kane, and is to be used by the summit hospital of that place for the care of consumptives.

Satisfactory Results of Filtration.—Since the Lower Roxborough slow sand filtration plant has been in use, daily analyses of the water have been made with results, according to the report of Chief Engineer Hill, most satisfactory. In addition to rendering the water perfectly clear, the bacteriological tests show that the number of bacteria has been reduced to from 26 to 35 per c.c. This, Chief Hill claims, is the greatest elimination of germs ever accomplished, and the plant here will set a new standard for supplying pure water to a large community. A display of water in large jars has been made in the lower corridors of the City Hall since the first test-filter was established in this city. That from the test plant has been substituted by water now being furnished to Germantown. The remarkable clearness of the samples is a revelation to downtown people who are still being supplied with liquid mud.

CHICAGO.

The Typhoid Fever Situation in Chicago.—Dr. Arthur R. Reynolds, Health Commissioner of Chicago, read a paper on this subject. He said that the one supreme measure necessary to prevent recurrences of epidemics of this disease is the protection of the water-supply from sewage pollution.

Sanitary Quality of City Water-Supply.—The practical point with reference to the sanitary quality of the city water-supply is that low lake-levels cause increased pollution; high lake-levels improve the sanitary quality, and neither the one nor the other will be perceptibly affected by "the abstraction of from 300,000 to 600,000 cubic feet per minute" through the drainage canal. In fact, the abstraction of doublt the maximum quantity would not be seriously felt, and it is to be hoped in the sanitary interest, not only of Chicago, but of all points between Chicago and New Orleans, that this flow will some day be secured.

Presbyterian Hospital to Change Its Methods in the Administration of Drugs.—Mr. W. A. Shaw, attorney for the State Board of Health and State Board of Pharmacy, recently made an investigation of the alleged lax methods of administering drugs to patients at the Presbyterian Hospital, with the result that a new system in this particular will be adopted by the institution. The Superintendent of the Hospital promised Attorney Shaw that a registered pharmacist would in the future prepare all the medicines for the hospital, and that no one but physicians in charge would be allowed to prescribe medicines. It is expected that the methods of other hospitals will be likewise investigated.

Improvement of the Milk-Supply.—While the laboratory investigations have been unable to demonstrate typhoid-infected milk during the present epidemic, the presence of the typhocolon group has been repeatedly detected. Although special search has been frequently made for the typhoid bacillus in the city milk during the last eight years, it has been found in only three instances, and those in local epidemics, where the relation of cases of the disease and a common milk-supply was clearly established. This led in one instance to the confiscation of all milk from an infected dairy in a neighboring State, and its destruction at the State-line, and to equally effective measures in the two other cases of infected dairies in Cook County.

Typhoid Fever.—At a recent meeting of the Physicians' Club this subject was discussed. Professor John H. Long showed on a map the sections in which the disease is prevalent the greater portion of the year in Chicago. He told of the fever that is raging in the Ghetto, and said that conditions differed there from other sections. All the bulletins and newspapers in the city would not bear the residents of the district the news that the water is bad, so they must be reached some other way. He believed the spread of the disease could be limited even in the Ghetto if people would take pains to keep their houses and themselves clean, and the city would spend a few dollars in cleansing the streets and sidewalks. Dr. Adolph Gehrmann told of the experiences the Department of Health undergoes in its efforts to discover the conditions which foster and spread disease. He was positive of the cause of the present typhoid fever epidemic, attributing it almost entirely to the condition of the water.

The Murphy Button.—According to the "Chicago Clinic," a Chicago newspaper man was asked to speak at a recent banquet over which Dr. John B. Murphy presided as toast-master. "It was suggested to me," he said, "that it might be a delicate compliment to the toast-master for me to wear a Murphy button on this occasion. I went up and down State street to all the department stores searching for one. I found college buttons, fraternal buttons, G. A. R. buttons, but no Murphy buttons. Meeting a physician, I asked him what a Murphy button might be. He told me that the Murphy button was worn in the abdomen—on the inside. Then he rattled off a lot of stuff that was Greek to me. I caught the idea, however, and I have worn one in honor of the toast-master. I take it that the Murphy button is the refined name for what we used to call the 'belly-button.' "

Etiology of Typhoid Fever.—Dr. Wm. K. Jaques read a paper on this subject before the Chicago Medical Society. A discussion of the characteristics of the bacillus typhosus is not profitable because general practitioners are not aware of difficulties of the study. A constant stream of pathogenic germs is passing through the intestinal tract. To prevent the invasion of these into the tissues there must be present the destructive fluids and resisting powers of the intestinal cells. The greater the virulence of the germ, the greater must be the resistance to prevent invasion. The transmission of the typhoid bacillus from the intestinal or urinary tract of the diseased into the alimentary tract of a susceptible individual is necessary to produce typhoid fever. The key to typhoid sanitation is the prevention of the contamination of food and water by human dejecta. The more dense the city's population, the more perfect should be the sewage disposal.

Typhoid Bacilli in the Blood.—Drs. E. K. Kerr and F. G. Harris read a joint paper on this subject, and gave a preliminary report of 56 cases. The situation was reviewed from the time of the discovery of the bacillus to the present. It was shown that early investigation had failed to demonstrate the bacillus in the blood except in exceptional cases. Later students using large amounts of blood and culture material have demonstrated the bacilli in a large proportion of the cases examined. Thus Cole found them in 11 out of 15 cases, and Hewlett in 20 out of 24 cases. The technic was given in detail. About five c.c. of blood is drawn from a vein under aseptic precautions by means of a syringe and distributed among five Erlenmeyer flasks, each containing from 100 to 150 c.c. of bouillon. These are incubated from two to six days. Turbidity indicates a growth, and an agar slant is made. If a smear shows the presence of a motile bacillus, a bouillon tube is inoculated and the test for agglutination with known typhoid blood applied. A dilution of 1:50 was used and an hour allowed for agglutination and loss of motility. In the author's list of 56 cases, 31 were positive, and 25 negative. Identification was by agglutination only, although later the usual cultural tests will be applied. In a series of 102 cases, with 118 examinations compiled from recent writers, the bacilli were found in the first week in 87½ per cent. of the cases; second, 70 per cent.; third, 50 per cent., and later 25 per cent. In the six relapses examined, they were found in every case. The general average is 70 per cent. Cultures were positive before the Widal test was obtained in 37 per cent. of 81 cases when this relation was reported. It was shown that the bacilli are comparatively few, there being often only one or two of five flasks affected. The practical application lies in the easy method of isolating the bacillus, and in the diagnostic aid thus offered, which is shown to be sure, early in appearance and fairly easy, at least in hospital cases.

State of the City's Health.—Only 22 typhoid fever deaths were reported during the week—the fewest in any week since that ended Aug. 2. In that week 16 such deaths were reported—a sudden increase from a weekly average of eight during the month of July. For the successive weeks following that of Aug. 2, the reported deaths were 28, 45, 53, 51, 55, 43, 38, 28 and 22 respectively. The figures sustain the statement made in the bulletin for the week ended Sept. 13: "At the close of the week there were gratifying indications that the typhoid fever epidemic was abating." Nevertheless, the health department is still apprehensive of the results which are pretty certain to follow the continuous pollution of the public water-supply, unless the precautions against typhoid, which have been very generally observed, be s till maintained. Chief of these is, of course, the sterilization of all hydrant water to be used for drinking purposes. The pasteurizing of milk and cream is not of so much importance now as it was two months ago, when the leaflet concerning the prevention of typhoid was first issued. The milk-supply was never better than it has been for the past month. The week's examinations show only 3.5 per cent. of the samples below the ordinance standard. Watering and the use of formalin as a preservative have become "lost arts." The summary sewer disposal of milk thus adulterated has taught all concerned that the practice is not profitable. The most marked improvement has been in the quality of restaurant milk and cream. When the increase of typhoid compelled the department to resort to drastic measures, restaurant samples averaged 17 per cent. of watered or formaldehyded. Last week every sample taken from a restaurant or hotel was sound, whole milk or cream, fully up to or above the ordinance standard.

During the week the laboratory has received an increase of requests for cultures of which a majority have been diphtheria. Physicians report that the diphtheria is of the malignant, lymphatic type, the child often not complaining at all of a sore throat, and first culture frequently failing to reveal the typical diphtheria bacillus. Physicians should be on their guard against this form of the disease. While the laboratory has not received as many specimens for examination of suspected typhoid as in previous weeks, it is largely due to the fact that the internes at the hospitals have been instructed in the making of this test, and do the work themselves. There is still much typhoid in the city, especially in good residence districts.

The total of deaths reported, 471, is 25 more than for the previous week and 52 more than for the corresponding week last year. The increase is due chiefly to the effects of the unfavorable weather upon chronic invalids; the deaths of those over sixty years of age are nearly 10 per cent. greater than the week before and one-third greater than a year ago. Deaths from violence also account, in part, for the increase—44 during the week, 29 the week before and 32 in the first week of last October.

CANADA.

Appointments.—Dr. W. H. Cullen, a recent graduate of McGill University, has been appointed clinical assistant in the Manhattan State Hospital, Wards Island, New York. Dr. L. W. May has been appointed resident physician of the new civic hospital for infectious diseases, Ottawa, Ont. He is a recent graduate of McGill.

Montreal General Hospital—The September report of the Montreal General Hospital shows that there were 236 patients admitted into the wards of the hospital during that month; 214 were discharged and there were 17 deaths. The outdoor consultations were 2,664.

Toronto Medical Reopens.—The opening lecture of the Medical Faculty of Toronto University was delivered on the night of October 2, by Dr. J. J. McKenzie, Professor of Pathology. His lecture dealt with the life and work of Virchow. A freshmen class of average number has registered.

Trinity Medical Reopens.—Trinity Medical College, Toronto, opened for the winter session on the afternoon of Sept. 24. Dr. George Bingham, Professor of Applied Anatomy, delivered the opening lecture, which dealt largely with drawing a parallel and deductions therefrom between the careers of the eminent scientist, Sir James Simpson, and a London quack, who was very successful from a commercial standpoint, and who was contemporaneous with Simpson.

Executive Health Officers of Ontario.—The 17th annual meeting of this association was held September 9 and 10 at Berlin, Ont. Dr. Kitchen of St. George was the presiding officer, and delivered the annual Presidential Address. Among other matters discussed were a special report on vaccination; the bearing of the complications of bovine vaccination upon its unqualified acceptance by the profession and public; control of smallpox outbreaks in cities, and control of outbreaks of diphtheria. The following were the officers elected for the ensuing year: President, Mr. Thomas MacFarland, Chief Analyst for the Dominion Government, Ottawa; Vice-President, Dr. G. H. Bowlby, Berlin, Ont.; Secretary-Treasurer, Dr. P. H. Bryce, Toronto.

Semiannual Meeting of Quebec Medical Board.—The semiannual meeting of the Provincial Medical Board was held at Quebec on September 25. One of the most important items in connection with the meeting was the introduction of a resolution asking the Legislature of Quebec to pass the necessary legislation to enable the Federal Government to deal with Dr. Roddick's Bill for a Dominion Medical Council. This resolution was rejected on division by a vote of 21 to 11. This means that the necessary legislation will have to be asked for in the face of this adverse vote, and that Quebec, which jealously guards any seeming encroachment on its provincial rights, will probably be the instrument of overthrowing Dr. Roddick's efforts for the cause, of the unification of the profession throughout the Dominion.

Smuggling Diseased Immigrants into the United States.—The whole question of Montreal becoming a dumping-ground for diseased immigrants, owing to the United States having an immigration officer in that city, has been revived through the charge that diseased immigrants were being smuggled across the line into the United States. The new Canadian law provides that "Immigrants bound for the United States, who enter at Canadian ports, must be properly examined under that law." Mr. Robert Watchorn, the American official at Montreal, states: "We have deported more people in the three weeks since the law went into effect than in any three months prior to that." The sooner the Canadian

Government provides for the medical examination of all immigrants arriving at Canadian ports, the better Montreal people will be pleased. The Ottawa authorities state they know nothing of associations in Canadian cities for the smuggling of diseased immigrants and Chinese into American territory.

New Regulations of Study by Quebec Medical Board.—The recent action of the Quebec Medical Board in passing a resolution to the effect that in future the privilege of medical students presenting themselves for preliminary examination will be confined to those who have taken what is known as the "cours classique complet" has excited no end of discussion and criticism in medical circles in Montreal and other places in the Province of Quebec. This would be a bar to English students, as the above course is in use alone in the French universities. The passing of the resolution does not, of course, make it law, the idea being to have the whole Medical Act of Quebec revised, the English universities to adopt a standard equivalent to the above course of study. In McGill circles the resolution is looked upon with much disfavor, and an effort will be made to have it rescinded at the next semiannual meeting of the board. The promoters of the resolution are said to have had it adopted with a view to prevent the working of Dr. Roddick's Medical Registration Bill.

McGill University Faculty Appointments.—Lectures in the faculties of McGill University are again in full swing, and will be continued without cessation until the Christmas holidays. The list of freshmen in medicine is larger than ever this year, and includes students from the British Isles, Bermuda, the West Indies, the Southern, Eastern, and Northern States, and the various provinces and territories in Canada. Dr. Von Eberts has been appointed registrar of the medical faculty, in succession to Dr. Ruttan, who takes the chair of chemistry. The chair of hygiene in the faculty of medicine, which was rendered vacant some months ago by the death ot Dr. Wyatt Johnston, has not yet been filled. The position was offered to Dr. Hanken, bacteriologist in the employ of the Indian Government, but he has had inducements extended which have decided him to remain in his present position in India. The faculty have, however, three men in view for the position, viz., Dr. Balfour of Edinburgh, Dr. Abbott of Philadelphia, and Dr. Westbrook of Minneapolis. All three are eminent bacteriologists and prominent physicians, and all have attained enviable positions in medicine and pathology.

GENERAL.

Cholera Still in Egypt.—On Oct. 2, there were 254 fresh cases of cholera reported in Egypt, and 241 deaths from that disease. The totals since the outbreak on July 15 are 36,658 cases and 30,988 deaths.

Medico-Legal Bulletin.—The first number of this new journal has just appeared from the Physicians' Defense Company of Fort Wayne, Indiana. It promises to be a bright, up-to-date and useful periodical.

Smallpox in Barbados.—The outbreak of smallpox in Barbados continues to spread, and the attempt to isolate the victims of the disease has on several occasions led to riots. The type of the disease is very mild, and the proportion of fatal cases has been extraordinarily low.

Hospital for Convalescents in Minnesota.—A deed was filed for record at Marshall, Minn., last week by which John M. Burke conveys to the Winifred Masterson Burke Relief Foundation $4,000,000 worth of real and personal property, to be used as an endowment for a hospital for convalescents.

Insanity in the Army and Navy.—A French investigator has recently come to the conclusion that the brains of military men give out most quickly. He states that out of every 100,000 men of the army or naval profession, 199 are hopeless lunatics. Of the liberal professions, artists are the first to succumb to the brain-strain, next the lawyers, followed at some distance by doctors, clergy, literary men, and civil servants. Striking an average of this group, 177 go mad to each 100,000.

Work of Lying-in Hospital.—In the month of September the new Lying-in Hospital, at 17th and 18th streets and Second Avenue, had 457 applicants for treatment, of whom 151 were admitted and cared for in the hospital wards. The number of children born in the hospital during August was 108. For the same period in the Outdoor Department there were 280 applicants for assistance in their own homes, and 248 patients were treated in confinement; 1,166 medical visits were made, and 841 visits to assist and aid, 251 patients being helped by trained nurses and a woman to perform various household duties. Through the diet kitchen, tea, coffee, sugar, bread, milk, and oatmeal have been distributed to deserving cases, and 1,191 garments given away.

Virchow and His Students.—The late Professor Virchow had a sense of humor and appreciated that quality in others. One day, while he was lecturing, he noticed that one of the students, instead of listening and taking notes, was staring vacantly out of the window at a tree. "Young man," said the professor, "let me call your attention to the fact that we are studying pathology here, not botany." On another occasion the joke was on the professor. He was angry because a student could not name the exact color of a preparation he showed him. Finally, he asked sarcastically: "What would you say was the color of my coat?" The coat had seen better days, and the student replied promptly: "It seems to have been blue." Virchow laughed loudly at this hit, and, after asking a few more easy questions, let the student pass.

Bacteria in Low Temperatures.—According to the Evening Post, the researches of Prof. Dewar at the Royal Institution of London on low temperatures show that all bacteria are not destroyed, even at the lowest. Certain species live when subjected for days together to temperature as low as = 310 degrees F. The phosphorescent organisms cease to be luminous at the temperature of liquid air, but the chemical reactions producing the phosphorescence are only suspended, for the luminosity recurs when the temperature is raised. It cannot longer be assumed, then, that the temperature of space is sufficient to destroy all life, and it is not absurd to suppose that life can be transferred from one planet to another. If the bacteria will only choose cold meteorites they have a chance for life. But they must avoid the red-hot surfaces of such celestial carriers.

Suspected Cases of Yellow Fever in Spain.—A report from Madrid states that a number of cases of a contagious disease, suspected of being yellow fever, have occurred at Pazos Barben, which is in the province of Pontevedra, in the northwestern part of Spain. The report is of a very indefinite nature, but is interesting in relation to the subject of yellow fever in Europe. The bulletins of the yellow-fever institute (Public Health and Marine-Hospital Service), giving the history of yellow fever in Europe, recount that the latest recorded occurrence of yellow fever in Spain was in 1878, when the disease invaded the capital of Madrid and attacked 50 persons, of whom 30 died. All the victims on that occasion were soldiers from Havana, who were disembarked at Santander and transported by rail to Madrid. Apart from cases at quarantine stations, the latest appearance of yellow fever in Europe was in 1894, when two seamen died from the disease in a hospital in Trieste, Austria. These seamen were landed at Genoa from the Italian steamship Colombo and went at once to Trieste. The Colombo hailed from Brazil and had yellow fever on board during the passage.

Changes in the Medical Corps of the Navy.—Sept. 26, Passed Assistant Surgeon F. E. McCullough, detached from the naval hospital, Mare Island, Cal., and ordered to the Alert.—Passed Assistant Surgeon J. C. Pryor, detached from the Massachusetts and ordered to the Bancroft.

Sept. 29, Passed Assistant Surgeon J. F. Leys, detached from the naval hospital, Newport, R. I., and ordered to the Supply.—Passed Assistant Surgeon F. C. Cook, detached from the Supply and ordered to the naval hospital, Newport, R. I.—Passed Assistant Surgeon E. V. Armstrong, placed on the retired list Sept. 27, 1902.—The following-named officers were detached from the Solace ordered home and to wait orders. Passed Assistant Surgeon A. R. Alfred, Passed Assistant Surgeon C. P. Bagg, Passed Assistant Surgeon M. K. Johnson, and Assistant Surgeon H. E. Odell.

Oct. 2, Surgeon H. L. Law, retired, ordered to the naval recruiting rendezvous, Boston, Mass. Acting Assisting Surgeon J. H. Holloway, appointed Assistant Surgeon Sept. 27, 1902, with rank of lieutenant (junior grade).

Marriages of Eminent Men.—Prof. Thorndike of Columbia University, has selected a certain group of men whose brief biographies are given in "Who's Who in America," for 1902, and has investigated the statistics with reference to the question: Do eminent men marry later than their less gifted fellows? The answer is: There is no marked difference. The statistics show that of a group of 286 eminent men aged 60-70 years, 88 per cent. are married; 347 eminent men aged 50-60 years, 88 per cent. are married; 342 eminent men aged 40-50 years, 88 per cent. are married; 243 eminent men aged 30-40 years, 85 per cent. are married.

The corresponding percentages for the whole country are 93,92,89,85. Taking the group of eminent men who are over 44 years of age and who married before the age of 45, it appears that about 22 per cent. married before the age of 25; about 43 per cent. married between 25 and 30; about 19 per cent. married between 30 and 35; about 16 per cent. married between 35 and 45.

The corresponding percentages for the whole country are, approximately, 23, 41, 23, 13.

Prof. Thorndike remarks that these facts bear witness to the fundamental conservatism of human nature. The casual observer is impressed by the appearance of changes—of revolutions and reformations in human ways; he fancies that some force in the environment is making or marring our customs. But the inborn make-up of men is always a factor and one that remains unaltered through many centuries.

The Leper Home in Dutch Guiana.—The following letter to the New York Sun is worthy of a reading by the medical profession, that they may vouch for the enterprise here outlined: "Among the charitable institutions of this hemisphere none will appeal to the sympathies of humanity more than Bethesda House of Mercy, the leper home at Groote Chatillon, Surinam, Dutch Guiana. A committee of Christian gentlemen of that colony have from year to year liberally supported it so that all expenses have been paid by them and friends in Holland, England and Germany. The superintendent of the same, the Rev. Henry T. Weiss, and wife have arrived in this country in order to gather funds for additional buildings such as a surgery, a hospital, a chapel and bathrooms. May they not have come in vain! It cannot for a moment be imagined. Our Consul at Paramaribo, the capital of Surinam, the Hon. Arthur Deyo, is well acquainted with them and the good work they are doing among the lepers. On the eve of their departure he handed them an open letter. It reads as follows:

'The Rev. Mr. Weiss and wife visit the United States with a view of interesting all good people in their work, and also to solicit financial aid to further the purposes of alleviating the sufferings of the lepers under their charge. They are making a noble sacrifice in their efforts for these poor lepers. I commend them to the peole of the United States. I feel confident that they will gladly contribute most generously to enable Mr. Weiss to enlarge and continue the good work of relieving the sufferings of those afflicted with this dreadful sickness.'

In order to show how important this leper asylum is, it need but be stated that there are some three thousand lepers, half of them coolies, in Surinam. Every dollar now contributed will be used for the much-needed buildings. Friends in Holland bear all Mr. and Mrs. Weiss's expenses. Money is needed only for more buildings. Contributions will now be most gratefully acknowledged by the Rev. Henry T. Weiss, 12 Church street, Bethlehem, Pa."

Women Inspectors and the Tenement-House Commission.—Ten women began work as tenement-house inspectors last week, according to the Evening Post. When, last spring, the Tenement-house Commission announced a civil-service examination for sanitary officers, a large number of women responded. The authorities were somewhat taken aback at this unprecedented occurrence, and offered to give the women a special examination at some future time. Nearly all accepted the special examination, but a few persisted and stood the test with the men. Out of the whole number who were examined, ten qualified and were appointed. At least six of these women are college graduates, and they assume these positions on salaries of $1,200 a year. Many of them are quite capable of earning twice the salary in other fields. Miss Mary B. Sayles, for instance, is a graduate of Smith, a successful teacher, and has made independent investigations of tenement-house conditions for the College Settlement Associations of Jersey City, and the Brooklyn Bureau of Charities. Dr. Gertrude Light has a degree from the University of Wisconsin, and was one of the first women to be graduated from the Medical College of John Hopkins University. Dr. Light conducts children's clinics at Bellevue. Miss Emily Dinwiddie is a graduate of the University of Virginia, and has been a teacher. At present she is a special agent of the Charity Organization Society, and was commissioned to compile its Directory of Charities. Vassar College is represented by Miss Helen D. Thompson, who will give up the position of sanitary inspector of the Civic Sanitary Association of the Oranges to become a tenement-house inspector. Dr. Margaret Brewster is a graduate of the New York Infirmary for Women and Children, and of the Medical School of Cornell University. She is assistant physician in the out-door department of the Presbyterian Hospital. Miss Jeannette is a graduate of Barnard College. Miss Mildred B. Fairchild is a Normal School graduate and a teacher. Miss Christine L. Kuntz received her training in the New York School of Philanthropy.

The Army and the Canteen.—The following editorial in the New York Times outlines so well the standpoint taken by the majority of medical men that we here reprint it in full. It is an important statement, especially since lying behind the whole question of intemperance in the army is that dread specter, venereal disease.

"The Army and Navy Journal has summarized the reports of the commanding officers of several military departments in the United States for the year ending with June 30. Civilians will turn with special interest to what the commanding Generals have to say about the operation of the anti-canteen law. This law was passed in opposition to the great weight of expert opinion at the instigation of people profoundly ignorant of the subject and is keenly resented by a great majority of officers serving with troops.

"Gen. Funston is more emphatic than any of the other commanding officers on this subject. He assigns 'the deplorable increase of offenses in general and of desertion in particular' chiefly to two causes, one, the chafing of soldiers just returned from field service at the restrictions of garrison life and the other the abolition of the canteen. 'Since this action was taken,' says the commander of the Department of Colorado, 'saloons of the lowest type have been established just outside the boundaries of the various reservations. * * * There can be no reasonable doubt that most of the trials by general court-martial and summary courts, at least so far as this department is concerned, are directly traceable to this cause. Since I have had command here there have taken place the ruin and degradation of several non-commissioned officers of long service and fine record.'

"Gen. Randall of the Department of Columbia reports: 'There was a considerable increase over the preceding year in the ratio of trials by court-martial to the average of enlisted strength. This is believed to be due in part to the large number of recruits, but in part also to the abolition of the sale of beer at post exchanges.'

"It is true that the Inspector General of the Department of Dakota does not share these opinions and reports that he is 'inclined to the opinion that the abolition of the beer feature in post exchanges has not materially increased the number of trials by courts.' But of the consensus of army opinion in favor of the restoration of the canteen, as an aid to military discipline and efficiency, there can be no question at all. And it is very greatly to be wished that those who know nothing about the matter would consent to have it settled by those who do know something about it."

A Promise to Pay for Physician's Services by Third Party Not Enforceable by Law Without Written Contract.—According to the Medico-Legal Bulletin, physicians and surgeons are frequently called by a third party to attend a sick or injured person and the question often arises as to whom he shall look for his compensation. The third party may be a responsible party, while the patient may be worthless, and the fact that the third party called the doctor may have induced him to answer the call and treat the patient. Whether or no the third party acted as the employer or as agent only of the patient will depend, of course, upon the circumstances of each case—what was said by the third party at the time the transaction took place or during the treatment of the patient. This is particularly so in cases of injury to employees of corporations. The employer very frequently calls in a physician to look after an injured employee, but in the absence of any definite understanding between the corporation and the doctor no liability should be incurred by the corporation by the mere calling of him to attend the employee. Some one must call him if the employee cannot, and if the corporation recognizes the necessity and calls the physician, it ought not to be held responsible for the services. The physician and surgeon is then left to look to the patient for his fees, unless he contracts with the corporation to perform the services. In such a case, however, the physician will want to make an express contract with the company that he is to perform the services and look to it for his compensation. A physician is liable to render what may amount to gratuitous services at any time to irresponsible men unless he can make some such specific contract with a responsible third party as that just referred to. An individual may promise to be responsible for the expense of the treatment of a certain patient, and it then becomes important for the physician to know what the agreement is and how far he is protected by it, and whether or not it should be in writing. Many times the wording of the agreement will prevent a recovery, while if the physician had been a little more careful there would have been no trouble.

The Statute of Frauds, which is an English statute and has been adopted in part in almost every State in the Union, provides among other things "that no action shall be brought whereby to charge the defendant upon any special promise to answer for the debt, default or miscarriage of another person, unless the agreement upon which such action shall be brought, or some memorandum or note thereof, shall be in writing, and signed by the party to be charged therewith or some other person thereunto by him lawfully authorized." This means that unless an agreement to pay the debt of another is put in writing and signed by the party who is to pay the debt or his authorized agent, said party is not bound to pay the debt should he be called upon. It is then of importance to know whether or not the promise by the third person, if it is not put in writing, is within the statute so that it can be enforced. The language used in the verbal promise is controlling. If a patient should come into a physician's office accompanied by a third party, and ask for treatment, and the third party to gain him credit should promise the physician, "If he does not pay you, I will," this is a collateral understanding and void without writing by the statute. Should he say, "Give him the treatment, I will be your paymaster," or "I will see you paid," this is an understanding as for himself and he will be to all intents and purposes the patient, and no contract in writing is necessary. The promise must be collateral to the transaction to make a written memorandum thereof necessary and if the promisor makes himself primarily liable by his promise it is not within the statute and need not be in writing. This question of what is and what is not within the statute is, owing to its dependency on the facts in each particular case, one of much uncertainty, and one on which there is a great variety of decisions. One court has held the same expression not to be within the statute. This is true as to the expression quoted above. "I will see you paid," which has been held by the Supreme Court of Michigan to be an undertaking by the promisor and not within the statute, while the Supreme Court of Nebraska has held that the same undertaking is collateral to the employment and is therefore within the statute. Various other illustrations are to be found in the body, which all go to show how uncertain it is to leave it to the courts to decide whether or not the contract should have been in writing.

There, of course, must be a consideration before any such agreement between a physician and a third party can have any effect, but this consideration need not be stated in the agreement. It is left to be shown when the contract is sought to be proven.

Summing the whole matter up, a physician, who desires to hold a third party responsible for his fees for services which he performs for another party, must put the promise in writing and have it signed by the third party and not run the risk of a court deciding that a verbal undertaking by the party is within the statute and preventing a recovery of his fees, because the promise is not in writing.

The International Medical Congress.—The official programme of the Fourteenth International Medical Congress, which is to be held at Madrid, April 23 to April 30, 1903, under the patronage of their Majesties King Alfonso XIII and the Queen Mother, has recently been issued.

Sections.

The work of the Congress will be divided among sixteen sections.

In the Section of Anatomy (including Anthropology, Comparative Anatomy, Embryology, Descriptive Anatomy, Normal Histology and Teratology), which will be presided over by Professor Santiago Ramon y Cajal, the following subjects are proposed for discussion: (1) What is the best method of didactic exposition of the nervous system? (2) the positive value of anatomical measurements for the racial identification of individuals; (3) the structure of nerve cells; (4) the origin of fibroblasts in connective new formations, normal and pathological.

In the Section of Physiology (President, Dr. Gabriel de la Puerta y Rodenas), among the subjects set down for discussion are the physiological action of saccharin, and the influence of glandular poisons on muscular contraction.

In the Section of General Pathology (President, Dr. Amalio Gimeno y Cabanas) Dr. Marchiafava, of Rome, will introduce a discussion on parasitism in neoplasms; there will also be discussions on the genesis of sarcomata; blastomycetic lesions; the desirability of a revision of the classification and description of known bacteria; and vaccinations with cultural and chemical liquids.

The Section of Therapeutics (President, Dr. Benito Hernando y Espinosa) will discuss the relations between the chemical composition of medicaments and their physiological action; the dangers of the so-called intensive medication in chronic diseases and chiefly in tuberculosis; the utility and dangers of intraspinal injections of cocaine in medicine and in surgery; the mechanism of the physiological and therapeutic action of hypnotics and narcotics; intravenous therapy; the treatment of tetanus by Baccelli's method; the therapeutic valuation of antitoxic serums; hypodermic injections, their pharmaceutical significance and the desirability of preparing a pharmacopœia unifying the procedures for making and preserving these preparations.

In the Section of Pathology (President, Dr. José Calvo y Martin) there will be discussions on the etiology and prophylaxis of malaria; the application to clinical medicine of the new researches on the physical and chemical properties of blood serum and diet in typhoid fever.

The Section of Nervous Diseases (President, Dr. José Maria Esquerdo y Zaragoza) will give special attention to toxic and infectious insanities; the delimitation of the pathological nature of crime, and the intervention of psychological medicine in the reforming treatment of criminals.

The Section of Children's Diseases (President, Dr. Francisco Criado y Aguilar) will discuss the therapeutic value of serumtherapy in diphtheria; the treatment of clubfoot; the treatment of tuberculous disease of joints; infant feeding; acute non-tuberculous meningitis; infantile rheumatism and its relations with heart disease and chorea; alcoholism in children.

In the Section of Dermatology and Syphilis (President, Dr. Manuel Sanz e Bombin) the following subjects will be discussed: Blennorrhagia from the medicosocial standpoint; parasyphilitic diseases; retrospective diagnosis of syphilis; treatment of pruritus.

In the Section of General Surgery the subjects proposed for discussion are deaths following operation and indication for surgical intervention in diseases of the stomach. In the Subsection of Neurology there will be discussions on the remote results of surgical intervention in malignant tumors of the kidney and on the comparative value of the means at our disposal for the appreciation of the functional condition of the kidney.

In the Section of Ophthalmology (President, Dr. Santiago de los Albitos) there will be discussions on the surgical treatment of affection of the lachrymal passages; the necessity of unification of optometric scales; optic neuritis in the course of acute affections, and the action of medicaments on the pupil accommodation and intra-ocular tension.

The Section of Oto-Rhino-Laryngology will discuss the causes of deaf-mutism; cholesteatoma and the after-treatment of operative procedures on the ear, and its surgical intervention in every kind of laryngeal cancer and in all its phases desirable from the medicosocial point of view? the local treatment of laryngeal tuberculosis.

In the Section of Obstetrics and Gynecology (President, Dr. Eugenio Gutierrez Gonzalez) there will be discussions on the indications for hysterectomy in acute puerperal infections; the treatment of placenta previa; pathogeny and treatment of chronic cellular and peritoneal inflammations of the pelvis; indications and results of opotherapy in gynecology; the conservative surgery of lesions of the adnexa; the early diagnosis of ectopic pregnancy; the treatment of urethrovaginal fistulæ; induced abortion and premature confinement in its relations with natural law, theology, medicine, and the penal law.

The Section of Military Naval Medicine and Hygiene (President, Dr. Antonio Serrano y Borrego) will discuss the tuberculosis problem in armies; the advantages and disadvantages of compressed medicaments in campaigns; military life and affections of the nervous system, particularly insanity; the prophylaxis of syphilitic and venereal diseases in armies; the hygienic problems of feeding in besieged places.

In the Section of Hygiene and Epidemiology (President, Dr. Felix Guzman y Andres) there will be discussions on the prophylactic value of disinfection and the methods generally followed; the means of preventing the spread of dysentery; the desirability of establishing sanitary custom houses on the land frontiers of countries; the utility of antituberculous dispensaries as means of increasing vital resistance in the poorer classes.

The Section of Forensic Medicine and Toxicology (President, Dr. Adriano Alonso Martinez) will discuss the capacity and responsibility of degenerates and the localization of poisons.

General Addresses.—The following addresses will be given at general meetings of the Congress: Professor S. Laache, of Christiania, on reciprocity in pathology; Mr. Arthur Thomson, of Oxford (subject to be announced); Professor Ivan Petrovitch Pavlov, of St. Petersburg (subject to be announced); Professor Wilhelm Waldeyer, of Berlin, the present state of phylogenetic theories and Darwinism; Professor Eduardo Maragliano, of Genoa, the struggle of the organism against tuberculosis; Dr. Emilio R. Coni, of Buenos Ayres, public medicine in South America; Dr. Juan José Fernandez, of Havana, diseases of the eyes in a tropical country; Professor Brouardel, of Paris, adulterations of food: their influence on the development of some diseases; Professor A. Politzer, of Vienna, the necessity of the official teaching of otology; Dr. Howard A. Kelly, of Baltimore, urinary infection; Professor Rodriguez Carracido, of Madrid, pharmacological complexity in medical prescriptions; Professor Santiago Ramon y Cajal (subject to be announced later); Dr. Rafael Rodriguez Mendex, of Barcelona (subject to be announced later).

State Board of Medical Examiners of New Jersey.—At a meeting of the State Board of Medical Examiners of New Jersey, held at Newark, N. J., October 1, 23 of the 28 physicians who took the State examination held at Trenton, N. J., September 16-17, were duly licensed to practise medicine in New Jersey. The following medical colleges were represented by the candidates:

Baltimore Medical College	3
College of Physicians and Surgeons of Baltimore	3
Columbia University, Medical Department	3
Baltimore University, School of Medicine	2
Hahnemann Medical College and Hospital of Philadelphia	2
Jefferson Medical College	2
University of Naples, Italy	2
Boston University, School of Medicine	1
Columbian University, Medical Department	1
Dartmouth Medical College	1
Medico-Chirurgical College of Philadelphia	1
Shaw University, Medical Department	1
University of Montpelier, France	1
University of the South, Medical Department	1
University of Turin, Italy	1
University of Vermont, Medical Department	1
Woman's Medical College of Pennsylvania	1
Yale University, Medical Department	1
	28

The percentage of rejections for the September examination was 18.

Beginning with the examination in June, 1903, each applicant for examination will be required to file with his application a recent photograph of himself, with autograph signature, duly attested before and under the seal of a notary. In the matter of interstate reciprocity of medical license, the policy of the Board in endorsing the licenses issued by other States whose examining requirements are substantially the same as those of New Jersey, provided that the applicant fully meets the academic and medical requirements of the State, is gaining favor both with the profession and with other State Boards. This policy places the admission of an applicant upon the basis of his personal fitness and the thoroughness of his examination, which is believed to be the fairest and the most equable method of endorsement so far devised.

Obituary.—Dr. Alonzo E. Cherry of Oneida, N. Y., died Sunday, at the age of seventy-five years. He was very prominent in Masonic circles throughout the State, had served fifteen years as Master of Oneida Lodge, was Past High Priest of Doric Chapter, R. A. M. and Past Patron of Oneida Chapter, O. E. S.

Dr. Thomas Wilde, who had been in active medical practice in Brooklyn for thirty-five years, died on Sunday at his home, 121 Seventh avenue, in that borough, in his sixty-fifth year. He served in an Iowa regiment in the Civil War. He was a member of the Kings County Medical Society and of the New York Physicans' Mutual Aid Society. He was one of the founders of the Carleton Club and chairman of the Interclub Whist League and the Brooklyn Whist Club.

Dr. Bertram Spencer, Professor of Medical Jurisprudence in the Medical Faculty of Toronto University, died last week. Dr. Spencer met with a street railway accident about a week prior to his death; erysipelas had set in of which he died.

Suddenly, at Rahway, N. J., on Thursday, Oct. 2, died Dr. Charles H. Meeker, aged seventy-seven years.

Dr. E. Standlee, formerly Dean of the American Medical College, member of the State Board of Health, President of both the National and State Medical Associations, and one of the founders of the new John King Hospital, now in the course of erection, is dead at St. Louis, aged forty years.

Capt. Frederick C. Jackson, an assistant surgeon in the army, is reported to have died of morphine poisoning at Manila. Capt. Jackson went to the Philippines nine months ago, after a long leave of absence, granted because of a gunshot wound in the knee.

Dr. Abel Mix Phelps died Monday afternoon in the Post-Graduate Hospital. He had been suffering from a malignant disease of the omentum, and was operated upon last Saturday, some of the most prominent physicians in this city being present. Dr. Phelps was fifty-one years old, and was born in Vermont. After graduation from the University of Michigan he was appointed surgeon of the Vermont Central railway, and it was at this time that he took up the study of orthopedic surgery, for which he became famous. In 1880 he went to Europe and studied for four years in the leading medical schools over there. Upon his return to this country Dr. Phelps was appointed to the chairs of orthopedic surgery which he originated, in both the Universities of Vermont and New York. In 1887 he was made chief orthopedic surgeon in the Post-Graduate Hospital. The same year Dr. Phelps was elected Vice-President of the New York State Medical Society, and three years later he was chosen as its President. He was a visiting surgeon to the New York Hospital, and together with Mr. and Mrs. Herbert Turner established the Daisyfield Hospital for Crippled Children at Englewood. In 1895 Dr. Phelps married Miss Cora Bedell of this city, who with two children survives him. He was a member of the Lotos and American Yacht Clubs.

Dr. Morris J. Asch, of No. 5 West 30th Street, this city, died Sunday at his sister's home at Irvington-on-Hudson. He was seventy years old, and about two years ago suffered a stroke of apoplexy. He has not practised for over a year. Dr. Asch was a graduate of Jefferson Medical College of the class of 1855, and, offering his services at the outbreak of the war of the Rebellion, he was attached to Sheridan's staff, and was the General's personal physician. In the early seventies he came to New York and built up a large and successful practice. An operation on the nose which is in general use in hospitals was originated by him, and is known by his name. He was a member of the County Medical Society, the Academy of Medicine, the Roman Medical Society, the Medico-Surgical Society, the American Laryngological Association, a surgeon of the New York Eye and Ear Infirmary, and of the throat department of the Manhattan Eye and Ear Hospital. He was a member of many clubs, among them the Union, University, New York Yacht (to which organization he was surgeon), Army and Navy, Century, the University of Pennsylvania Association, the Pennsylvania Society, and the Blooming Grove Park Association.

Dr. Horace B. Lackey, a prominent physician of Scranton, died Sept. 30 at the Medico-Chirurgical Hospital, Philadelphia, where operation had been performed in the hope of saving his life. His age was fifty-eight years. He was graduated from Bellevue Medical College about thirty years ago.

Dr. John Byrne, one of the best-known physicians in Brooklyn, died on Wednesday at Montreaux, Switzerland. In February last Dr. Byrne retired from active practice, and with his wife and two daughters went to Europe, his intention being to spend one or two years abroad. He was in his seventy-seventh year, having been born in Ireland in October, 1825. He was graduated from the Edinburgh Medical University in 1846, and came to America in 1848 and settled in Brooklyn. He was one of the founders of the Long Island College Hospital and organized St. Mary's Female Hospital in Dean Street. He took the lead in the establishment of the great St. Mary's General Hospital, and since its foundation has been President of the faculty and chief surgeon of the institution. He was widely known in the profession as a gynecologist, and a few years ago was elected President of the American Gynecological Society at a congress in Washington. In 1876 the electrothermal battery he had invented was exhibited at the Centennial Exhibition in Philadelphia. Dr. Byrne was an enthusiastic advocate of the use of his electrocautery in the treatment of cervix carcinoma, and it was a pleasure to witness the ease and celerity with which he operated. He also invented a number of surgical instruments. In 1889 Dr. Byrne published clinical observations on 400 cases of cancer.

Among the members of the medical profession in foreign countries who have recently died are Dr. Josef Bergson, formerly Privat-docent of internal medicine in the University of Berlin, and author of writings on ritual circumcision, asthma, general narcosis, and brachial neuralgia, aged nearly ninety; Dr. P. Delacour, Director of the Medical School of Rennes, in which he was formerly Professor of Clinical Medicine, aged seventy-six; Dr. Riant of Paris, Honorary General Secretary of the French Medical Association, and author of numerous works on hygiene, overpressure in schools, physical exercise, etc.; and Dr. E. Teinturier of Paris, a well-known alienist and a brilliant medical journalist, who was for many years a constant contributor to the Progrès Médical, aged sixty-three.

CORRESPONDENCE.

MEDICAL TERMS AND GREEK DERIVATIONS.

To the Editor of the MEDICAL NEWS:

DEAR SIR—Allow me to say a few words on the editorial upon this subject in your esteemed journal of August 9, 1902. First I wish to thank you for having honored me by taking notice of my modest paper, "Greek in Medicine."

Some years ago I had a conversation with Dr. Jacobi, during which he asked: "What is your object in devoting so much time and labor to the Greek question?" When I answered that I was simply working for truth and science, he jokingly said, "Such fools as you are becoming more and more scarce in the world."

I had quite a correspondence with Professor Waldeyer, part of which I took the liberty to publish because I felt that the remarks of our eminent colleague did him honor.

To Professor Waldeyer I wrote that I did not wish to appear as a reformer of our onomatology, as many have done from time to time only to add more and more confusion to the deplorable state of things already existing. My idea was simply to publish, with the aid of colleagues of the University of Athens, a complementary lexicon for every medical lexicon, giving the correct terms wherever unscientific pseudo-Greek or hybrid words were in use, and to furnish explanations where such might appear useful.

Let me give a few examples: *Gastroptosis—recte gastroptosia,* a feminine noun which ends in sis, xis and psis, as the second component remains unchanged when the first component is a preposition; *e. g., proptosis, periptosis, diagnosis;* but if the first component is not a preposition, then in composition the ending is changed into *sia,* as *cupraxia, apraxia, palingenesia, hierognosia* and also *gastroptosia.* To add paradigmata which are familiar to every one, I may select *opsis—autopsia,* not *autopsis; pexis—nephropexia,* not *nephropexis.*

Nobody need adopt at once these correct terms, at least not without referring to the incorrect ones which have been in use; but I am certain that every one of us who likes correctness and beauty of language would welcome the choice offered in the supplementary lexicon. The advantages of such a work are pointed out in the paper read in Baltimore on "Greek in Medicine." In regard to this idea Professor Waldeyer wrote: "I am now convinced that you are on the right track. Without causing disturbances, you are preparing the way for future new formations with which I sympathize fully."

Nothing can be farther from my mind than to substitute Greek terms where historical and correct Latin terms are in use. Such Latin terms should by all means be retained.

Kindly permit me to say that you have accused me of mentioning the word "telephone" as incorrect. In reality this is a correct Greek word which cannot be improved.

This opportunity is too inviting not to say a word about the most disgraceful abomination—"appendicitis." Of those who tell us that it has come to stay, we say, "Lord, forgive them, they know not what they do."

To typhlon enteron is the cecum; in German, the Blinddarm. *Peri* means on, upon, touching. Since there is nothing on the cecum but the appendix, the word *perityphlitis* is as exact a designation as we can wish; there can be no misunderstanding it; nothing else can be meant but inflammation or affection of the appendix vermiformis; and *perityphlitis* was the term used all over the scientific world until some ignoramus (he may have been a good surgeon) invented the horrid "appendicitis," ever since when most of us are anxious to furnish evidence that there is some truth in Darwin's hypothesis.

But "appendicitis" has by no means come to stay. Men with love for correctness and beauty of language in England and Germany write now *perityphlitis,* and before long we shall do likewise. At all events, it will be to our advantage to do so. A. Rose.

SOCIETY PROCEEDINGS.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Fourteenth Annual Meeting, Held in Washington, D. C., September 16, 17 and 18, 1902.

The President, Dr. Edwin Ricketts of Cincinnati, Ohio, in the Chair.

An address of welcome was delivered by Surgeon-General George M. Sternberg (retired) of Washington. This was responded to by the President.

Disease of the Pelvis in the Young and Unmarried.—Dr. C. L. Bonifield of Cincinnati, O., dealt with gynecological diseases which occurred in women who had never had sexual intercourse. Physicians were now more frequently consulted about such troubles but this was probably because the modern woman bears discomfort less well than her ancestors. Undeveloped uterus, disorders of menstruation, tuberculous disease of appendages and acute displacements are the most common affections in these patients. When menstruation does not make its appearance at the age it is expected, a thorough investigation of the general condition of the patient is indicated. Pregnancy is always to be borne in mind as a possibility. Dysmenorrhea might be constitutional or local. Local treatment is not required in the former, and the endometritis which causes a majority of the latter can often be relieved by hygienic treatment. Menorrhagia is often caused by anemia, or an interference with the circulation of the liver, heart, or kidneys. The uterus whose development has been arrested at the time of puberty is the most important type of undeveloped uterus. It is usually sharply anteflexed, but occasionally retroflexed, and the cervix is long and narrow, and the body dilated. Dysmenorrhea is a prominent symptom. Thorough dilatation, curettage and tight packing, repeated one or more times, if necessary, constitute the best treatment. Tuberculosis of the pelvic peritoneum is often mistaken for typhoid fever or appendicitis. Acute prolapse or retroversion of the uterus may be found as the result of a fall or heavy lifting in young women of lax fiber.

Removal of the Gall-bladder Through the Lumbar Incision.—Dr. Walter P. Manton of Detroit, Mich., reported the case of a patient thirty-eight years of age, the mother of five children (two abortions), never robust, but able to attend to her domestic duties. She had suffered from a number of gastric attacks, but there had been an absence of symptoms pointing to disease of the biliary tract. Examination showed a loose left kidney, while the right kidney, displaced downward and inward, appeared to be double its normal size and had certain projections which led to the diagnosis of nephroptosis, with probably cystic metamorphosis of the kidney. At the operation, through the nephropexy incision, the fatty capsule of the kidney was found to be embedded in adhesions, which had given rise to the appearance of the enlargement. The kidney, which was normal in size and structure, was delivered on the back and placed astride the wound. Below the kidney pouch a distended gall-bladder, containing fluid and nineteen gall-stones the size of hazel-nuts were found surrounded by adhesions. This was enucleated, tied off at the cystic-duct, and removed. The kidney capsule was split and peeled off to the lateral line, fixation sutures were introduced, and the organ was returned to its place. A strip of gauze for drainage was carried from the upper angle of the external wound to the stump of the cystic-duct. The patient made a good recovery.

Abdominal and Pelvic Surgery and Drainage.—Dr. Joseph Price of Philadelphia, Pa., said that the more progressive and successful specialists practised most extensive sponge packing or drainage. The modern operator did the same by his gauze pack or the dry operation. A number of operators, doing fairly good work by the suprapubic route, condemned or partially rejected drainage. Some of them, he said, never learned and never would learn how to handle drainage well. After abandoning the suprapubic route, these men were placed in the uncomfortable position of admitting that drainage did what they had refused to do by suprapubic surgery. About all the reported operations were coming from operators opposing drainage or practising it only when they were compelled to do so.

Vaginal Route for Operations on the Uterus and Appendages.—Dr. J. H. Branham of Baltimore, Md., said that pelvic inflammation was the commonest condition threatening the life of gynecological patients, caused by gonorrhea, abortion, tuberculosis, and other conditions not always discernible. In such the vaginal method of treatment made its best showing. He had operated on more than one hundred patients using this method, and had had three deaths only. He believes that vaginal drainage is the natural method. It is far more effective and safer. Opening through the vagina was associated with a minimum amount of shock and hemorrhage, and was thus indicated in extreme cases associated with severe toxic symptoms.

Abdominal Section and the Use of Ice.—Dr. F. F. Simpson of Pittsburg, Pa., recommended the local use of ice for the relief of pains to prevent or control peritonitis. He began the use of ice after observing its effects in several hundred cases of pelvic peritonitis of all grades prior to operation. He said: "After having seen many grave cases of this kind yield so favorably to this measure, and having seen a few of them die later from peritonitis following an abnominal section, which removed the bulk of filth, leaving but little behind in a fairly clean cavity, it seemed to me that with the same infecting organisms active in large numbers before operation, and in small numbers after operation, we might expect like results if the same treatment were employed in the two classes of cases. And, further, that by beginning the use of ice before peritonitis had actually developed, we might succeed in preventing that condition." As to theoretical objections, he said that they disappeared when physicians used ice. No injury to the skin had ever followed its use; the healing of wounds had not been retarded by it, and no depression of the general system had been observed. He ascribed the good effect of cold to its deep penetration. This is based on the known effects of cold on inflammation; on the observations of laboratory workers who had showed that cold actually penetrated deeply into the human cavities and tissues; and upon his own experiments on dogs, which showed that by the local use of ice there could be obtained within the abdominal cavity such a degree of cold as would retard the growth of pathogenic bacteria and contract the blood lymph channels, thus depleting the hyperemic areas and checking serous weeping into the peritoneal cavity without damage to the tissues.

Tetanus, Following Abdominal Section, Due to Infected Ligatures. The Angiotribe in Abdominal Surgery.—Dr. Walter B. Dorsett of St. Louis, Mo., detailed at length two cases which were of women who had undergone ventrofixation of the uterus, or adhesions of the uterus to the surrounding tissues, due to previous inflammatory conditions. The material used for fasten-ing the uterus was kangaroo tendon. This was the source of infection. He had used the angiotribe successfully twenty-five times, as follows: Abdominal hysterectomy, ten times; hemorrhoids, once; pus tubes, five times; extrauterine pregnancy, four times; dermoid cyst, once; ovariotomy, three times, and once in a case of vaginal hysterectomy. He concluded that (1) patients upon whom it had been tried suffered less post-operative pain; (2) no adhesions to stumps had followed; (3) no secondary hemorrhage had followed; (4) it can be applied, when two instruments were used, alternately by the operator and the assistant without the fear of the slipping of a ligature knot, and in less time.

Exploratory Laparotomy.—Dr. Walter B. Chase of Brooklyn, N. Y., said that physical signs and rational symptoms of certain diseases of the contents of the peritoneal cavity being often insufficient for purposes of diagnosis, surgical intervention, might be necessary to ascertain the exact state of affairs. Abdominal section for diagnostic purposes is of comparatively recent origin. Its growth has been progressive, but the limitations as yet are not clearly formulated. In chronic cases there might be ample time for study and analysis, with comparison of the progress and fluctuation of symptoms, which would furnish valuable data for forming deliberate judgment. Surgical intervention was looked upon much more favorably by a discriminating public to-day than formerly, so that the suggestion by the surgeon that an operation was required found a more ready response by the patient or patient's friends.

Ruptured Pus Tubes.—Dr. Charles Greene Cumston of Boston, Mass., spoke of two methods of dealing with pus tubes; one by posterior colpotomy, followed by incision and drainage of the sac, while the other was to remove the tube, and if the condition was bilateral to do a total hysterectomy. Drainage of the perforated pyosalpinx through the vagina was naturally the easiest and least dangerous method. The vagina was incised, and then the pyosalpinx and the walls of the pus tube might be united to the vaginal wall by means of forceps. The best treatment for perforated pus tubes is by abdominal incision. The extirpation of perforated pyosalpinx is particularly urgent in those patients in whom drainage by posterior colpotomy had been unsuccessful, and also in tuberculous lesions of the tubes.

Pelvic Abscess and Its Treatment.—Dr. Herman E. Hayd of Buffalo, N. Y., spoke of a class of cases in which vaginal incision and drainage, supplemented by curettage should be first employed to eliminate the pus, and then an abdominal section should be done later to relieve the patient of her suffering. Large collections of pus, low down in the pelvis, in a moribund woman are best evacuated through the vagina. He spoke in reference to strong women who were suffering from acute streptococcic infection, who had high temperatures with great pain and tenderness, and under ordinary circumstances, ready to submit to major operations, and in whom an acutely tender mass could be felt low down in the pelvis on one or both sides, at times filling up the cul de sac of Douglas. For these early vaginal incision was imperative and was without danger. The mass would diminish in size; the danger of rupture would be minimized, the pain and symptoms would subside.

Apprentices in Operative Gynecology.—Dr. G. Williams of Philadelphia said that the modern hospital training, so far as he himself had observed, was not sufficient for the practical training in gynecological technic. He spoke of the desirability of the modifications in present hospital arrangements looking towards that end. Radical measures, he thought, were alone justifiable in the treatment of pus tubes and that the abdominal route was to be preferred. The vaginal route was simply a makeshift. Whereas the mortality from this latter procedure might be small, the invalidism was very large. Other institutions and other surgeons usually perfected the work, if possible.

Bi-inguinal Celiotomy for Retroversions.—Dr. A. Goldspohn of Chicago in speaking of this operation for complicated retroversions of the uterus claimed that (1) surgical treatment was advisable, since it could do no harm and its good results would not be modified by gestation; (2) the operations in vogue do not meet the ideal requirements; (3) the evolutionary history of the round ligaments showed them to be the ideal structures to utilize; (4) their best service could be gained through the inguinal canals; (5) the lateral inguinal ring gave ample room for the operative technic, with cutting and without fear of subsequent hernia; (6) the histories of 107 cases showed its efficacy; (7) in all the cases recorded the uterus was retained with pronounced anteversion and good involution following childbirth.

Starvation Treatment of Appendicitis Irrational.—Dr. John B. Deaver of Philadelphia said his experience of ninety-eight cases for two and a half months past had furnished the objections to the rest or starvation treatment. An early operation, preferably in the stage of appendiceal colic, was the only rational procedure he had found, and was the best treatment to reduce the mortality in acute appendicitis. The so-called rest treatment failed to check inflammation of the peritoneal structures and in the majority of cases did harm to the patient. The statistics he presented supported the argument. He was willing to grant that operation in the presence of an acutely inflamed general peritonitis was attended by great risk to life, and therefore it was often wise to defer operation hoping that the inflammatory process would become localized. This was often his practice; but the starvation plan of treatment promised no more in such cases than the mere common practice of abstaining absolutely from giving opium, keeping the bowels freely open by cathartics, or, as some physicians preferred, a hydragogue cathartic, which was both antiseptic and germicidal, giving nourishment by the rectum, when the stomach was tolerant, and using ice or heat locally in the shape of poultices or hot turpentine stupes.

Presidential Address.—The subject was "Our Shortcomings: Let Us Reason Together," delivered by Dr. Edwin Ricketts, Cincinnati. The general practitioner, he said was the backbone of medicine. It should not be otherwise. With just and co-equal considerate relations the best interests of the physician and specialist were not to be severed. With changed relations toward the general practitioner complications were sure to arise. Abdominal surgery and gynecology in the hands of all operators was being accompanied with a higher mortality than was true of that done by special workers. Reasons were advanced why the physician and all those engaged in the practice of specialties should enter the political arena. It would teach them what organization was, what and how power can be wielded for good. It would result in pronounced efforts for the organization of the medical profession which in due time was to command respectful consideration from the national, State and county governments. Such would make a free and independent profession. The relationship of the neurologist as bearing on special work should be better appreciated. The neurologist should be called in consultation oftener, and he, in turn, should consult with the surgeon before sending any of his patients to an institution for partial or permanent detention. He urged the appointment of a national secretary of medicine, which, he believed, would put medicine on its highest and broadest plane. This would mean dignity, higher regard, influence, and an equitable financial remuneration.

Appendicitis Cases and the Lessons They Teach.—

Dr. Miles F. Porter of Fort Wayne, Ind., reported eleven cases in detail.

Four Cases Illustrating the Difficulties of Diagnosing Appendicitis.—Dr. William Wotkyns Seymour of Troy, N. Y., reported four cases in abstract.

Intra-uterine Fibroids Complicating Pregnancy, and Retained Placenta Associated with Intra-uterine Fibroids Complicating Pregnancy.—Dr. M. A. Tate of Cincinnati, O., collected thirty-nine cases from literature, and reported two personal experiences. Analyzing these forty-one cases, he showed that in nine cases the names of reporters were given. In six the tumor became gangrenous; hemorrhage was a prominent symptom, occurring in eighteen cases; three polyps were expelled spontaneously; seven polyps were removed; in three the polyp was not removed; in ten labor was normal; in four labor was difficult; in two the child was destroyed; one was a case of turning, and the other a breech; in four the tumor was discovered before labor, in all of the rest, after; four cases were reported in which labor set in before time; two were at the fifth, and two at the seventh month. The following complications were reported: Septicemia, eight; measles, one; puerperal mania, one; retained placenta, four cases. Cold applications, iodides, ergot, whiskey, vinegar, packing of uterus with gauze, and removal of tumor. Causes of death: hemorrhage, three; sepsis, three; peritonitis, one; and collapse one, making in all eight cases. If all of the other cases, including the nine without histories, recovered, there would be thirty-three recoveries and eight deaths, a mortality of 19½ per cent.

Abdominal Section During Pregnancy.—Dr. J. Henry Carstens of Detroit, Mich., had had the following complications of pregnancy: Appendicitis, five; hernia, one; fibroids, four; abdominal hysterectomy, one; vaginal hysterectomy, three; ovariotomy, three, and miscellaneous three, or altogether, twenty cases and five deaths; mortality 25 per cent. This included all his cases from many years back. To-day he thought the mortality would be less. Acute diseases which required prompt operation could be operated upon notwithstanding pregnancy. Tumors that would interfere with labor should be operated on. Tumor above the brim of the pelvis, or which could be shoved above the brim of the pelvis, need not be interfered with; still, as a rule, all tumors took on a very rapid growth during pregnancy, and the increase in size might interfere with the various functions of life and then surgical intervention was required.

Deciduoma Malignum.—Dr. Lewis S. McMurtry of Louisville, Ky., reported a case. Clinically the disease presented a well-defined history. The disease appeared after abortion or labor, the tumor being situated upon the endometrium of the body of the uterus. Of 128 recorded cases, in 40 per cent. the disease appeared after mole pregnancy. Hemorrhage was the first and most conspicuous symptom, and was not controlled by curettage. The discharge was usually offensive, especially in the advanced stage. The disease had a marked tendency to early metastasis; the lungs and vagina were the most common sites for metastatic deposits. The disease was so rapid in its course that the period from first symptoms until the death of the patient was only a few weeks or months. The only successful treatment was the early and complete extirpation of the uterus. In the author's case the disease appeared in a woman of thirty-five immediately after abortion. Persistent hemorrhage and fetid discharge from the uterus prompted operative intervention. The uterus and its appendages were removed by abdominal hysterectomy, and the patient made a prompt recovery.

Perforating Ulcer of the Duodenum.—Dr. John B. Murphy of Chicago reviewed the etiology, pathology, and diagnosis of duodenal ulcers, and considered the surgical treatment of perforation. An analysis of his twenty collected cases showed: Average age in the thirteen cases in which age was stated was thirty-five years. Of the nineteen cases, five were females and fourteen males. Of the twelve cases in which it was stated whether or not there were symptoms present previous to perforation, in nine they were present previous to perforation; in three there were no previous symptoms; in only five cases did the symptoms point to the stomach or duodenum; in six cases it was stated that the perforations were sutured; of these two died, three recovered. In one the result was not stated. In eight cases drainage only was used; of these seven died, and one recovered. He concluded the diagnosis of perforating ulcer was difficult, or, better, practically impossible without an exploratory laparotomy. In many cases there was no evidence of duodenal disease previous to the perforation. The most important physical sign, in addition to those of perforative peritonitis from perforations in other portions of the intestinal tract, was the flatness of the superficial piano percussion note in the right hypochondrium. The leucocytosis in one case, the only one in which it was seen, was pronounced, showing an inflammatory condition, in contradistinction to the usual absence of it in intestinal obstruction and fat necrosis of the pancreas. Leucocytosis, however, was not a necessary manifestation of perforation or of inflammation. It was often entirely absent in typhoid perforations. Collapse was absent in duodenal perforation except when associated with severe hemorrhage. Collapse was always secondary to abrasion or denudation of the endothelial covering of the peritoneum, which abrasion permitted of rapid absorption. In all cases of perforative peritonitis operation should be done at the earliest possible moment after the perforation, and experience showed that the mortality was in direct ratio to the length of time that elapsed between the perforation and the operation. Of thirteen cases operated upon more than thirty hours after perforation, all terminated fatally, while in twelve cases, where less than thirty hours had elapsed, 66⅔ per cent. recovered. The operation must be complete—that is, it must be pursued to an effective suture of the perforation. Drainage was insufficient, as of eighteen cases treated by drainage alone all died. The suture of the opening can be easily inserted, as in 98 per cent. of the perforating ulcers into the peritoneum the opening was in the first portion of the duodenum, its most accessible portion. Where duodenal perforation was suspected, the incision should be through the right rectus muscle. It could then be carried upward to the costal arch, or downward to the symphysis pubis without dividing any of the transverse muscles. The incision through the rectus muscle was the one which he commonly made in operating for appendicitis. It could be enlarged upward or downward without interfering with the muscle fibers. Drainage or no drainage was a matter of personal election, influenced, more or less, by the pathological condition present at the time of the operation. The prognosis depended upon the virulence of the peritonitis produced; the time the material had been allowed to remain in the peritoneum; on the presence or absence of blistering or abrasion of the peritoneum at the time of operation.

Peritoneal Tuberculosis.—Dr. Rufus B. Hall of Cincinnati, Ohio, maintained that tuberculosis of the peritoneum in women is not a rare affection. It occurs often enough to make it necessary to consider it in the differential diagnosis of all obscure diseases in the pelvis and abdomen. In a large majority of cases there were no appreciable manifestations of tuberculosis in other parts of the body. The symptoms simulated several other conditions in the pelvis and abdomen. The diseases most likely to be confounded were the recurrent attacks of appendicitis of the catarrhal form, small fibroid tumors, with old tubo-ovarian disease, and recurrent attacks of pelvic inflammation. If the case is one of tuberculosis, however, the temperature chart will suggest this disease if the record is taken every four hours for a period of ten to fifteen days. In no other condition is there such exact regularity in the afternoon rise of temperature. Cases of tuberculosis of the peritoneum in which there was encysted dropsy, or an accumulation of pus or serum, should be operated on; after the necessary surgical repair the abdomen should be drained. Vaginal drainage in women is preferable, because it gives perfect drainage and prevents ventral hernia.

Surgical Treatment of Perforated Gastric Ulcer with General Infection of the Peritoneal Cavity.—Dr. H. Howitt of Guelph, Ont., said that acute perforation, with general infection of the abdomen usually caused by the acute, round ulcer, but might occasionally take place in the course of a chronic ulcer, especially when it was situated on the anterior wall. All the phenomena of acute perforation might result in either form of ulcer in a more indirect manner by the formation of a localized abscess, which afterward ruptured internally. In peritoneal perforation with general infection medicinal remedies are useless. Early, bold, and thorough surgery alone can save the patient. When patient is anesthetized an incision from ensiform cartilage to pubis should at once be made, the bowels eviscerated and protected, then the stomach examined and the perforated part brought out of the wound as far as possible and the field guarded by sponges. The perforation might be excised, but it is generally merely closed with two or more rows of silk sutures. Every pouch and corner in the abdomen should be thoroughly inspected and flushed clean. Drainage tubes are used, not placed in the wound, but through stabs, one at the back in each flank depression below the kidney, and one in the lower abdomen to the right or left of the incision for the pelvis. After the intestines are replaced and omentum is spread over them and fastened below the lower end of the wound with a suture or two, the incision is closed as quickly as possible and dressed. In a desperate condition of the patient, a pint of peptonized milk or other suitable liquid food may be injected into the jejunum during operation.

The author said in conclusion that he was aware that many surgeons strongly objected to evisceration, but he maintained that it was impossible by any other known method to make certain that the cleansing of the peritoneum had been done thoroughly. Imperfect toilet is followed by more shock, and is vastly more dangerous than hours of properly-managed evisceration.

Carcinoma of the Cervix.—Dr. L. H. Dunning of Indianapolis, Ind., presented a summary of sixty-two cases operated upon by hysterectomy. These cases showed on applying the accepted test of time—five years—that the author had had an encouraging number of cures; they also showed the desirability of early operative procedure. The operative methods employed were indicated, and the author's views of the same were discussed. He reported five cases of carcinoma of the cervix uteri in which the women were alive five years after hysterectomy.

Officers.—The following officers were elected for the ensuing year: President, Dr. L. H. Dunning, Indianapolis, Ind.; First Vice-President, Dr. Marcus Rosenwasser, Cleveland, O.; Second Vice-President, Dr. Herman E. Hayd, Buffalo, N. Y.; Secretary, Dr. William Warren Potter, Buffalo, N. Y.; Treasurer, Dr. X. O. Werder, Pittsburg, Pa. Chicago, Ill., was selected as the place for holding the next meeting; time, September, 1903.

BOOK REVIEWS.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medincine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VIII. Pediatrics and Orthopedic Surgery, Edited by W. S. Christopher, M.D., John Ridlon, A.M., M.D., Samuel J. Walker, A.B., M.D., July, 1902. The Year Book Publishers, Chicago.

This volume of the Practical Medicine series contains an excellent short review of recent contributions to heredity in reference to pediatrics, which everyone interested in children's diseases will find of value. In the department of orthopedics there is an excellent description of Lorenz's method of treating congenital dislocation of the hip, which has a certain timeliness because of present-day newspaper interest in a celebrated case. There is an excellent abstract of Lovett's work on lateral curvature of the spine that is well worth the more permanent preservation it will receive in a manual of this kind. In general this volume is well up to the standard of the series. Some of the illustrations are rather poorly reproduced, and an improvement in this respect would add to the value of these handy manuals.

General Paresis, Practical and Clinical. By Robert Howland Chase, A.M., M.D., Physician-in-Chief, Friends' Asylum for the Insane, Philadelphia. P. Blakiston's Son & Co., Philadelphia.

General paresis is undoubtedly growing in frequency in this country, as well as in Europe. Civilization and syphilization are undoubtedly producing their deadly effects. At the present time something more than one-fifth of the inmates of our insane asylums are suffering from general paresis. As these patients first come into the hands of the general practitioner, there is good reason for even the ordinary country physician to have some definite ideas as to the initial symptoms of the disease. It is in order to give such ideas simply, clearly and succinctly that this book is written. It seems to fulfill its object very well. The early symptoms of the disease in particular are described with care and minuteness, and always with a human interest, that makes them very practically suggestive. The illustrations serve to convey precious additional information. The question of prognosis is treated excellently, and all the possible causes of the disease find their due place. We feel sure that the book will meet the welcome it deserves from all those who appreciate the growing interest in this more and more important disease.

Photographic Atlas of the Diseases of the Skin. By George Henry Fox, A.M., M.D. Parts xiv, xv, xvi. J. B. Lippincott Company, Philadelphia and London.

Three more fascicles of this excellent Atlas are to hand, and the pleasure in turning the pages of the earlier numbers is felt again in this series. Part xiv illustrates the following lesions: Lepra tuberculosa, mycosis fungoides facici, psoriasis exfoliata, dermatitis exfoliativa and favus. Part xv shows forms of epithelioma rodens, eczema manus, syphiloderma manus, rosacea hypertrophica and papilloma lineare; while Part xvi includes erythema bullosum scabies, dermatitis venenata, urticaria, and seborrhea, steatoma and milium.

As we have before said, the illustrations are of the first quality. The text is ample, practical and concise and the therapy most serviceable. The possession of such a work places within the grasp of the practitioner a dermatological clinic in itself.

THE MEDICAL NEWS.

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SPECIAL ARTICLE.

THE HUXLEY LECTURE ON RECENT STUDIES OF IMMUNITY, WITH SPECIAL REFERENCE TO THEIR BEARING ON PATHOLOGY.*

BY WILLIAM H. WELCH, M.D., LL.D.,
OF BALTIMORE;
PROFESSOR OF PATHOLOGY, JOHNS HOPKINS UNIVERSITY.

You will readily believe that with my deep appreciation of the high honor conferred by the invitation to deliver the fourth Huxley lecture there was joined a sense of great embarrassment in being called upon to follow in this office three such leaders of world-wide fame as Sir Michael Foster, Professor Virchow and Lord Lister. But the letter of the Committee of Charing Cross Hospital Medical School stated that the choice of a successor to these great names was "a tribute of our admiration for the great army of scientific workers on the other side of the Atlantic." While I cannot assume to occupy any other place in this army than that of a soldier in the ranks, I felt that if my acceptance of this invitation could be regarded as in any sense an expression of appreciation by American workers in science of the commendation and goodwill of their British colleagues, of our large indebtedness to them, of our sense of the common interests, the comradeship and the kinship of the English-speaking peoples on both sides of the ocean, I should not decline, even if summoned to occupy a position of danger.

There was another consideration which I may be permitted here to mention. Through Huxley there is, if not a bond, at least a link between the Charing Cross Hospital Medical School and the Johns Hopkins University. This lectureship was founded to commemorate the fact that Huxley received his entire medical education at the Charing Cross Hospital Medical School. While throughout America the name of Huxley is held in high honor as that of a great discoverer and interpreter in science, and while the influence which he has exerted upon popular as well as scientific opinion through those messages peculiarly fitted to the needs of English thought is not less here than among his own countrymen, we at the Johns Hopkins University have special reasons to acknowledge our gratitude to him. He crossed the ocean to deliver the principal address at the opening of this University in 1876, and he then gave utterance to ideas concerning university, and especially medical, education which were at the time and have remained an inspiration and a guide to us. Then, too, the Johns Hopkins University owes to Huxley and to Michael Foster the accession to its faculty of my lamented colleague, Newell Martin, who by the introduction and development of the biological methods and conceptions of his teachers gave such new directions and so great an impulse to biological study in America that his own work and that of his pupils started for us a new era in this department.

The first Huxley lecturer has made it unnecessary for his successors to dwell upon Huxley's studentship at the Charing Cross Hospital, upon the important influence which this had upon his career, or upon his great services to medical science, although his chief title to fame lies outside of the domain of medicine. I should like, however, to quote a passage, although it must be familiar to you, from Mr. Leonard Huxley's charming "Life and Letters" of his father, which has appeared since the date of Sir Michael Foster's lecture, for it shows that "it was at Charing Cross Hospital where Huxley first felt the influence of daily intercourse with a really able teacher." He says: "No doubt it was very largely my own fault, but the only instruction from which I obtained the proper effect of education was that which I received from Mr. Wharton Jones, who was the lecturer on physiology at the Charing Cross School of Medicine. The extent and precision of his knowledge impressed me greatly, and the severe exactness of his method of lecturing was quite to my taste. I do not know that I have ever felt so much respect for anybody as a teacher before or since." Wharton Jones, who will doubtless be longest remembered as the discoverer of the ameboid movements of the white blood corpuscles, was an experimental physiologist and pathologist of much originality, and it seems to me that there has not been, even in his own country, so full a recognition of his work as its importance merits.

Before passing to the special theme of this lecture it is fitting that I should pause, if only for a moment, to call to mind with affection and reverence that recently departed great man who honored and delighted you four years ago, and who has conferred such high distinction upon the office of Huxley lecturer. When one considers the full import of the discovery and establishment by Virchow of the principles of cellular pathology, that this constitutes the secure foundation upon which nearly two generations have built and future generations will continue to build the edifice of scientific medicine, I do not know what greater name there is in the whole history of medicine than that of Rudolf Virchow. How noble his character! With what amazing industry, versatility and keenness of intellect did he fruitfully cultivate the new fields which he had opened to research, as well as other departments of science! With what devotion and beneficial results did he give his time and abundant knowledge to the service of the public and of our profession! We mourn the loss of a hero of medicine and of science, a benefactor of his race, and we rejoice in the rich fruitage of a long and well-spent life.

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*Delivered at the opening of the Winter Session of Charing Cross Hospital Medical School, October 1, 1902.

The first place in experimental medicine to-day is occupied by the problems of immunity, and in accordance with the trust of the Huxley Lectureship, which provides that the lecture shall relate to "recent advances in science and their bearing upon medicine and surgery," I have chosen for my theme "Recent Studies of Immunity, with Special Reference to their Bearing on Pathology." As it would be hopeless to attempt a complete review of this broad subject within the space of a single lecture, I shall dwell more particularly upon certain of its aspects, not always of necessity the most important ones, which I conceive less familiar to most physicians, or which have engaged my attention, although much which I shall say is, of course, known to those who have followed the results of recent work in these new lines of investigation.

Under "Studies of Immunity" I have included, as a matter of convenience, though not with strict accuracy, investigations which, although the direct outgrowth of those primarily directed towards a solution of the problems of immunity, have extended far beyond these bounds, and have revealed specific properties of cells and fluids in health and disease of the broadest biological interest. We find illustrated here the familiar fact, nowhere more important to recognize than in medicine, that the sciences are interdependent, that discovery in one field sheds light in the most diverse and often unexpected directions, and opens new paths to research. We shall see also exemplified the fructifying influence upon the advancement of knowledge of the discovery and application of new methods of investigation.

In endeavoring to follow in its intimate workings the contest of the living body with its invaders, the attention of investigators has naturally been drawn both to the action of the cells and to the properties of the fluids of the body in this struggle, to the latter sometimes without sufficient consideration of the dependence of the humors in their composition upon the cells. Each of these lines of study, whether followed separately or conjointly, has led to the discovery of important facts relating to the mechanism of immunity.

We owe to Metchnikoff and his pupils the most important observations concerning the direct participation of leucocytes and other cells in the processes of infection and the production of immunity. Whatever attitude one may take toward Metchnikoff's well-known phagocytic theory of immunity, one must recognize the wealth of new facts which he has brought to light, and must admire the skill and fertility of resource with which for two decades he has defended this theory against severe assaults; and he has done so, in my judgment, with a large measure of success. With wonderful ingenuity in his recent book on "Immunity" he rescues the phagocytes and applies to a deeper insight into their activities results of his opponents' work.

The other line of research, in some respects more important, was opened in 1888 by Nuttall, working in Flügge's laboratory, by his systematic study of the antibacterial properties of the body-fluids, particularly of the blood-serum. It is true that there were previous indications of the power of fresh blood to kill bacteria; indeed, if one wishes to trace this matter historically to its roots, he must go back to John Hunter, who was quite familiar with the antiputrefactive power of fresh blood, although, of course, he knew nothing of bacteria. Hunter showed that putrefying fluid could be added in small quantity to fresh blood without setting up putrefaction, and in elaborating his favorite doctrine of the "living principle of the blood" he interested himself greatly in certain phenomena which, if interpreted in the light of our present knowledge, are clear anticipations of some recent findings.

After Nuttall our knowledge of the bactericidal power of the blood-serum was extended by Buchner and others, but the next advance of fundamental importance in this direction was Pfeiffer's discovery in 1894 of the quick extracellular disintegration and solution of cholera spirilla in the peritoneal cavity of immunized guinea-pigs, or in that of normal guinea-pigs treated with immune serum, and of the presence in the immune serum of a specific substance concerned in the bacteriolytic process, although by itself without bactericidal power.

In the meantime Behring had made his great discovery of antitoxic immunity and of the protective and curative value of antitoxic serum, and Ehrlich had done much to elucidate the nature of this form of immunity. It soon became apparent, however, that immunity from the great majority of bacterial infections does not depend in the main upon the antitoxic principle. The attention of bacteriologists, therefore, was drawn more and more to the so-called "Pfeiffer phenomenon," which was found to be of great general significance, and starting from this and especially from the investigation of the analogous and much more readily studied solution of red corpuscles by foreign serum, there has followed in rapid succession up to the present time a series of new and most interesting discoveries and conceptions with which are connected many names, but most prominently those of Metchnikoff and Bordet, and Ehrlich and Morgenroth.

Through these various studies of immunity we have become acquainted with an important physiological capacity of the healthy organism, the extent and in most instances the existence of which was unsuspected until quite recent years. This capacity is the power to produce substances specifically antagonistic to all sorts of foreign cells and cellular products and derivatives. The substances capable of inducing this immunizing reaction appear to be mainly of an assimilable, albuminous nature, or at least intimately associated with such material, although it has been proved that certain non-albuminous derivatives of proteids have the same power.*

The mode of antagonism of the specific bodies formed in response to the reception within the living organism of substances capable of inducing the necessary reaction varies with the nature of these latter substances, and consists in such diverse manifestations as neutralization of poisons and of ferments, injury or destruction of cells, associated with characteristic morphological changes, cessation of motility of cells or their appendages, agglutination of cells, precipitation, and coagulation. In accordance with these different effects the corresponding antagonistic bodies, or anti-bodies as they are called, are classified as antitoxins, anti-enzymes, cytotoxins, agglutinins, precipitins, and coagulins, and even against these bodies, with the exception of the antitoxins, antagonists have in turn been produced. All of these bodies are in varying, but usually high degree specific with reference both to the nature and to the source of the material upon which they exert their characteristic effects.

The cytotoxins or cytolysins include not only the bacteriolysins and hemolysins, but also a great number of other cellular toxins present in the sera of animals which have received injections of cells from a different species. To every cellular group of an animal species there appears to correspond a specific cytotoxin. To designate these various cytotoxins such self-explanatory names as leucotoxin, spermotoxin, nephrotoxin, neurotoxin, thyreotoxin, syncytiotoxin are used. Their specificity extends not only to the nature of the cells but also to the species of animal furnishing the cells used for their production.

One of the most important results of recent work is the separation of these specific anti-bodies into two groups, in one of which, represented by the antitoxins, the antagonists are single bodies; while in the other, represented by the cytolysins, the antagonistic effect requires the cooperation of two bodies. Of these two bodies the one which actually destroys the foreign cells or induces other specific effect is normally present in the cells or fluids of the organism, but it seems incapable of action without the intermediation of a body which is distinguished from it by greater resistance to heat, and which is produced by the immunizing reaction, although it may also be normally present in smaller amount.† The two elements composing a cytolysin exist quite independently of each other, so that one may be present without the other or be artificially removed without affecting the other. Of the multitude of names proposed for these cytolytic components, those most commonly used for the body which is the specific product of immunization, although it may also exist normally, are intermediary body, immune body, amboceptor, sensitizer, fixative, preparative, desmon, and for the other body complement, alexin, cytase. It is this latter body which contains the atomic group described as toxophoric or zymophoric.

Concerning the source, mode of action and constitution of the specific antagonistic bodies we are very imperfectly informed. That they are of cellular origin seems certain, and Ehrlich, with great ingenuity, on the basis of a brilliant series of experiments, has advanced an hypothesis regarding them which, in my opinion, better than any other hitherto suggested accords with the known facts and in promoting discovery has already done the greatest service of which a working hypothesis is capable. Ehrlich has so recently and so fully in the Croonian lecture presented before English readers his hypothesis of the side-chains or receptors and the basis for it, that I need only recall to your minds his conceptions that the toxins, cells and other substances which lead within the living body to the production of antitoxins, cytolysins and other antagonists have this capacity only through the possession of specific affinities, called haptophore groups, for corresponding haptophore groups belonging to side-chains or receptors of certain cellular constituents of the body, and that, in consequence of this appropriation of receptors, others of like nature are produced in excess of the needs of the cell, and these, being shed into the lymph and blood, there constitute the antitoxins, intermediary bodies, agglutinins and other specific antagonists. The antitoxic receptor has only a single combining affinity, which is for the toxin; whereas the cast-off receptors constituting the intermediary bodies of cytolysins have at least two affinities (hence called amboceptors by Ehrlich), one of a more highly specialized nature being for the invading bacteria or other foreign cells, and the other for the complement.* The anti-body enters quantitatively into definite chemical union with its affinitive substance.

The essence of Ehrlich's theory concerning antitoxin is thus tersely expressed by Behring: "The same substance which, when incorporated in the cells of the living body, is the prerequisite and condition for an intoxication becomes the means of cure when it exists in the circulating blood." So of the twofold bactericidal and cytolytic agents we may say that the living body possesses substances which may protect it by destruction of invaders, or may injure it by destruction of its own cells, according to the mates with which these substances are joined.

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*Specific precipitins have been produced by injection of crystalline and other so-called pure proteids. Obermayer and Pick produced immune bodies by the use of non-albuminous products of tryptic digestion of certain albumins. Jacoby has shown that the specific body concerned in ricin immunization is non-albuminous. Klein obtained entirely negative results with injections of starch, glycogen, glucose, gum-arabic, and gelatine.

†Metchnikoff believes that the complement or cytase, which in his opinion exists under normal conditions solely within cells, not free in the plasma, acts in natural immunity without the cooperation of an intermediary body or fixative, the latter being concerned only in acquired or artificial immunity. The evidence seems, however, to favor the view that in this regard the conditions are similar in both forms of immunity, the main difference being the presence of a much larger amount of the specific immune body in the latter.

*According to Ehrlich's latest conception, resulting from investigations to demonstrate the multiplicity of complements, an amboceptor has a single cytophilic affinity and a number of complementophilic affinities differing in their avidity for various complements. He regards the agglutinins, precipitins and coagulins as uniceptors of more complex structure than the antitoxins, but Bail has recently brought evidence to show that agglutinins, like cytolysins, are composed of two elements. For the purposes of this lecture it is not deemed necessary to enter into these or many other details of this complicated subject. For comprehensive and admirable critical reviews of recent theories of immunity and Ehrlich's hypothesis of the receptors, I would refer to Professor Ritchie's papers in "The Journal of Hygiene," Vol. II., No. 2, and succeeding numbers, and to Dr. Aschoff's paper in Zeitschrift f. allgem. Physiologie, Bd. III., Heft 3.

An inquiry which naturally arises in this connection is: What is the physiological mechanism called into action in the processes resulting in the production of antitoxins, cytolysins, and similar bodies? We have no reason to suppose that the animal body is endowed with properties specially designed to meet pathological emergencies. Its sole weapons of defense, often lamentably imperfect for morbid states, are adapted primarily to physiological uses.[*] To the foregoing inquiry Ehrlich answers that the mechanism concerned is one physiologically employed for the assimilation by the cells of food. The receptors are in the cells not for the purpose of linking poisons to the cells, but to seize certain food-stuffs, particularly the proteids, and the toxins and bacterial and other foreign cellular substances, if capable of inducing the immunizing reaction, chance to have the requisite combining affinities for the food-receptors. It is interesting that Metchnikoff also, though from a different point of view, refers the mechanism of immunity to the physiological function of assimilation of food by the cells.

Inasmuch as according to Ehrlich's hypothesis the specific antagonistic substances resulting from the injection of toxins and of foreign cells or derivatives of cells exist preformed in cells of the normal body, there would appear to be no reason why any one of them might not occasionally be present normally free in the blood or fluids. In fact, many of them, such as diphtheria and tetanus antitoxins, various anti-enzymes, bactericidal, hemolytic and other cellular toxins, agglutinins, and a number of other bodies of this class as well as their anti-bodies, have been found repeatedly, though, of course, in the case of many inconstantly and with marked differences between individuals and species, in the blood of healthy human beings or animals when their presence could not reasonably be attributed to a previous specific immunization. Of these normal anti-bodies the only one which is increased in amount by the process of immunization is that specifically related to the material used to bring about the reaction. As already stated, it is the intermediary body,[†] not the complement, which is generated in immunization against bacteria and other cells.

The foregoing statements, though of necessity condensed and incomplete, about the general characters of the specific anti-bodies will, I trust, help to a better understanding of what is to follow concerning the bearing of some of these discoveries on medical science and practice. I realize the difficulties which you must already ploring the multiplication of unnecessary new lines of research, in following a brief presentation of a subject in which not only are the facts so complex and the ideas so novel, but the terminology so strange and burdened with such a multitude of confusing synonyms. While dehave experienced, if unfamiliar with these new terms, I should like to quote in this connection a wise remark of Huxley[*]: "If we find that the ascertainment of the order of nature is facilitated by using one terminology, or one set of symbols, rather than another, it is our clear duty to use the former; and no harm can accrue so long as we bear in mind that we are dealing merely with terms and symbols."

The most remarkable and characteristic attribute of these anti-bodies is the specificity of their relation to the substances which have led to their formation. Of some of them, such as diphtheria or tetanus antitoxin, this specificity is nearly absolute; of others, such as the precipitins, it is only relative. This property is the basis of new and most valuable methods for the identification of species and the determination of genetic relations—species not only of living things, but also of chemical substances and of disease.

The resemblances and the differences thus revealed are doubtless fundamentally of a physicochemical nature, but in many instances they transcend the powers of the microscope or of ordinary chemical tests to detect.

The results already attained by the method of serum diagnosis,[†] using this expression in its widest sense, are not only of interest and importance to the biologist, physiologist, and chemist, but of great practical value to the bacteriologist and the physician. As this is not an aspect of my subject, broad and important as it is, upon the details of which I propose to dwell, it must suffice to present by way of illustration examples of the diagnostic application of different kinds of specific sera.

The only means of detecting toxins of the class of diphtheria or tetanus toxin, snake-venom, and certain vegetable poisons of the same category is their neutralization by the corresponding antitoxic sera. Occasion may arise where such detection is of practical and even medicolegal importance, as has been exemplified in India, where the criminal use of cobra-venom is not unknown.

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[*] W. H. Welch. Adaptation in Pathological Processes. Trans. Congress American Physicians and Surgeons, 1897. Vol. IV.

[†] I use in this lecture the name "intermediary body" in preference to the more technical term "amboceptor," although Ehrlich applies the German equivalent—Zwischenkörper—only to normal as distinguished from immune amboceptors.

[*] Huxley. On the Physical Basis of Life. Collected Essays. Vol. I., p. 164. New York, 1893.

[†] The general procedure followed in the production of specific sera is the injection into a suitable animal at intervals of time repeated doses of toxins, bacteria, foreign cells or other material against which the anti-body is desired. For example if a specific precipitating or a hemolytic serum for human blood is wanted, an animal, say a rabbit, is injected subcutaneously or intraperitoneally at intervals of three or more days with five or six doses of human serum or human red blood-corpuscles. At the end of this time the rabbit's serum has acquired the property of precipitating in strong dilutions human serum, or of dissolving human red blood-corpuscles, if these were used for the injection. Within limits the less closely related the two species of animals, the more powerful is the antagonistic effect of the specific serum. This is true especially in the case of cytotoxic sera.

The application of serum diagnosis which is most familiar to physicians is the agglutinative test for typhoid fever. The principles of the agglutinative reaction were worked out in the laboratory of Professor Gruber in Vienna by himself and Durham, and were there first applied to the diagnosis of typhoid fever by Greenbaum, who was anticipated in his publication by Widal, who has made a thorough clinical study of the subject. The method is of great value, not only in the diagnosis of disease, but also in the identification of bacterial species and the recognition of relationships between species. Durham, to whom we owe important contributions to this subject, has given an ingenious hypothetical explanation of mutual agglutinative reactions, the main features of which are paralleled in Ehrlich and Morgenroth's doctrine, based upon experiments, relating to the multiplicity of cell-receptors and of amboceptors concerned in hemolysis.*

We have found the agglutinative reaction an indispensable aid in the study of the series of cases of paratyphoid fever which have come under observation in Dr. Osler's wards at the Johns Hopkins Hospital, and which otherwise it would have been scarcely possible to have separated from typhoid fever.† The occurrence of paratyphoid fever as a distinct disease affords an explanation of a certain proportion of the failures of the serum from supposed typhoid patients to clump typhoid bacilli. Not less valuable is the serum test in the diagnosis of *Bacillus dysenteriæ Shiga* and of the diseases caused by it. This micro-organism has been shown by Flexner and his pupils, Vedder and Duval, to be the cause of our acute dysenteries, and recently in Baltimore Duval and Bassett, working with the aid of the Rockefeller Institute for Medical Research at the Thomas Wilson Sanitarium for Children, have discovered that this same bacillus is in all probability the specific agent of infection in the summer diarrheas of infants.

Bacteriolytic sera have been used by Pfeiffer in the differentiation of cholera and allied spirilla, but few other bacteria present equally well the Pfeiffer reaction, which is not nearly so useful or handy a means of identification as the Gruber-Durham reaction.

Of other cytolytic sera the hemolysins have been by far the most carefully studied. One of the most interesting results of this study has been the determination by precise quantitative methods of resemblances and of differences between red blood-corpuscles which in no other way could be distinguished. These resemblances and differences relate to the red corpuscles not only of different species of animals, but also to those of individuals of the same species. Although we constantly assume the existence of cellular differences between individuals and between species, these are for the most part of so subtile a nature as to elude our methods of observation. The exact demonstration of such differences by the use of cytolytic sera is therefore of especial interest. My assistant, Dr. Marshall, in an unpublished research, conducted under the direction of Professor Ehrlich and Dr. Morgenroth, upon the receptors of the red blood-corpuscles of man and of two species of monkey, found that while man and the monkeys each have receptors not shared by the other they also have a large number of receptors in common.

This result is in harmony with Nuttall's interesting observations on a much more extended scale regarding phylogenetic relationships between animal species as shown by the reaction of their blood with the specific precipitins discovered by Tchistowitch and Bordet and introduced into practical medicine by Wassermann. This biological test to determine the source of blood, when used with proper precautions, far surpasses in accuracy all other methods for this end. While it would lead too far from my purpose to follow this subject farther, I cannot in this connection forbear at least mentioning one of the earliest and most suggestive papers on this class of anti-bodies, that "On Immunity against Proteids" by Walter Myers, who gave up his life in the cause of science and of humanity, and whose early death is so great a loss to English medical science.

I shall ask your attentions now to some considerations concerning the bearing of recent studies of immunity on the nature and action of toxins. This subject is of course of the greatest pathological as well as bacteriological importance, and I believe a closer cooperation than now exists between bacteriologists and pathologists in its study would further the surer and more rapid advancement for our knowledge about it. One misses only too often in purely bacteriological papers on this subject exact knowledge and descriptions of pathological conditions, and on the other hand pathologists often fail to utilize pertinent facts and ideas which are familiar to bacteriologists.

The discovery by Roux and Yersin of the diphtheria toxin, the studies by Behring and Kitasato of tetanus toxin leading up to Behring's epochal discovery of antitoxin, and the later investigations of Ehrlich on the constitution of diphtheria toxin and the origin and mode of action of antitoxin are the great events in the most brilliant and securely founded chapter of modern studies of immunity. Through these researches we became acquainted with a class of poisons secreted by certain bacteria and present in solution in culture fluids. The evidence is conclusive that these soluble toxins enter, as assimilable substances, into direct combination with constituents of the body-cells for which they have an affinity, and only thereby are enabled to bring about immunity or to exert toxic effects. As shown by the modifications of toxins called toxoids, the toxic property may be lost without loss of the combining power and without removal of the immunizing power. According to Ehrlich's helpful conception, based on a large amount of experimental evidence and now very generally accepted, the combining power of the toxin molecule resides in a group of atoms, designated as the haptophore group, with affinity for the corresponding haptophore groups of the side-chains or receptors of cellular constituents, and the toxic power pertains to another and less stable atom-complex in the molecule.

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*Durham. Journal of Experimental Medicine, Jan. 15, 1901. Vol. V., p. 353. Ehrlich and Morgenroth. Berliner klin. Wochenschr., May 27, 1901, p. 570.

† See papers on paratyphoid fever by Johnston, Hewlett and Longcope in American Journal of Medical Sciences, August, 1902.

By means of these facts and legitimate deductions from them we are enabled to explain in a satisfactory way susceptibility to poisoning by these soluble toxins, their selective action upon the cells of the body, and their quick disappearance after injection into the circulating blood. In one infectious disease and in one only, to wit, tetanus, are we able to explain the clinical and pathological phenomena in minute detail on the basis of our knowledge of the causative microorganism and its poisonous products. The nearest approach to this instance is diphtheria, but here we have not yet been able to follow the trail of the toxins within the body so perfectly, and, as Flexner and I have shown, in addition to the soluble toxins there is an intracellular poison concerned in the production of the false membrane. Interesting investigations, which have greatly helped to elucidate the nature of these toxins, have been made on various similar vegetable and animal poisons, such as ricin and abrin from the former source, and the venom of snakes, spiders and other poisonous animals.

The high hopes which were raised by the discovery of the soluble bacterial toxins that at last the way was opened for us to penetrate into the mysteries of the mode of action of pathogenic bacteria were soon doomed to disappointment, for similar powerful toxins, though diligently sought, could not be detected in the cultures of most other bacteria, and these among the most important ones, such as the tubercle bacillus, the typhoid bacillus, the cholera spirillum, the pneumococcus, the pyogenic micrococci. This disappointment was all the more acute because there was and is every ground for confidence that whenever we have in our possession a powerful toxin of this class a strong protective antitoxic serum can readily be obtained.

Notwithstanding these negative results the belief was not abandoned that bacteria harm the body mainly by poisoning, for it rests upon strong clinical and pathological evidence, as well as upon the study of the distribution of bacteria in the infected body. The search for poisons was turned from the fluid part of cultures to the bacteria themselves, and thus Pfeiffer succeeded in demonstrating as an integral constituent of the bodies of cholera spirilla, toxic substances which are liberated only when the bacteria degenerate or die. Intracellular poisons, which indeed previously, though of a different nature, had been extracted from bacteria by Buchner and by Koch, were subsequently found within typhoid bacilli and a number of other pathogenic bacteria.

It is of more than purely bacteriological interest to recognize the distinction between the small group of pathogenic bacteria, represented by the bacilli of tetanus, of diphtheria, and of botulism, characterized by the secretion of powerful soluble toxins, and the much larger group, containing most of the other pathogenic bacteria, which do not secrete similar strong toxins, for it is only the former which give rise to the production of antitoxic sera of marked protective and curative power.

The form of immunity resulting from injections or natural infections with the second class of bacteria belongs mainly to the bacteriolytic type, in which, you will recall, the complete antibody is not a single substance, like antitoxin, but is composed of two distinct elements, intermediary body and complement, of which only the former is produced or increased in the process of immunization. The bacteriolytic sera are also under suitable but not readily controlled conditions protective and curative; but owing, it would seem, mainly to the duplex nature of the antibody their successful therapeutic application meets difficulties which have not yet been overcome. The great practical problem of bacteriology to-day is to make available to medical practice the bacteriolytic sera, such as antityphoid, antipneumococcus, antistreptococcus, antiplague, antidysentery sera. Such work as that of Marmorek, of Wassermann, of Neisser and Wechsberg, or Ainley Walker upon the production, the properties, the conditions underlying the action of these sera is, therefore, highly important.

Our knowledge of the constitution and action of the intracellular bacterial poisons is most incomplete, and at present cannot be applied in any very definite and satisfactory way to the explanation of the morbid phenomena of infectious diseases. Such investigations as those undertaken by Macfayden and Rowland at the Jenner Institute of Preventive Medicine upon the expressed juices of bacterial cells promise to shed light upon this subject and in general upon the vital processes of bacteria.

I find it difficult to reconcile myself to the doctrine that bacteria such as the typhoid bacillus, the pneumococcus, and others of the class now under consideration do their chief injury to the body, not while they are lively and vigorous, but after they become corpses, and in consequence set free their protoplasmic poisons. Still this latter conception is the basis of a coherent hypothesis of infection, elaborated most fully recently by Radziewsky,* which rests upon a considerable amount of accurate observation and interesting experimental work. There can be no doubt that in the course of many infections there goes on an enormous destruction of the bacteria concerned, so that the numbers of those indicated at any given time by microscopical examination and by cultures may represent only an insignificant fraction of the total progeny of the first invaders. I have been much interested in this phenomenon since I became familiar with it over twelve years ago.† in pneumococcus infections through the employment of a method which revealed in the exudates degenerating and dead pneumococci and their empty capsules in numbers often far exceeding the intact organisms, indeed in some cases so many that they formed a large part of the exudate.

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*Radziewsky. Zeitschr. f. Hygiene, 1900, XXXIV, p. 185, and 1901, XXXVII, p. 1.

While all due weight should be given to such facts as these, the objections to the acceptance of the hypothesis just mentioned as affording a complete explanation of the toxic phenomena of this class of infections are so obvious that naturally efforts have been made to learn whether bacteria which produce no strong soluble toxins in our ordinary culture media may not do so on other media of special composition, or in a demonstrable way within the living body. Work in these two directions has not been altogether barren, as shown by results of experiments made by Hueppe, Cartwright Wood, Marmorek, and others, along the former lines, and by Metchnikoff, Roux and Salimbeni along the latter, but it cannot be said that these experiments have led to any generally accepted solution of the main difficulties. Some are therefore inclined to lay the chief emphasis upon disordered cellular metabolism, but this is only a restatement of the question. Everybody recognizes abnormal metabolism as an essential condition in infections. The very point needing explanation is how the bacteria derange metabolism.

I wish here to advance an hypothesis which seems competent to explain the source, the mode of production, and the nature of certain bacterial toxins. It would appear to be a natural inference from the receptor theory of Ehrlich and the recent work on cytotoxins. The following considerations will, I hope, make clear the essential points.

As I have already stated, we know that the injection of foreign cells, such as pathogenic bacteria, red blood-corpuscles, spermatozoa, epithelium, into the tissues of an animal leads to the formation of poisons, called cytotoxins, acting specifically upon these cells; that the substances which stimulate the cells of the host to produce one constituent of this class of toxins consists of certain atom-complexes derived from the injected cells; that certain cells of the host thus stimulated generate and discharge one component of the toxin, called the intermediary body, which becomes the medium of intoxication through union, on the one hand, with a preexistent toxophore substance, called the complement, and, on the other hand, with the foreign cell which started the reaction.

Such is the response on the part of the host to the entrance of the foreign cells, but how about a possible response of a like nature on the part of the invading cells toward the host, resulting in the production of special cytotoxins, of analogous constitution, injurious to the host? This latter response, being of a vital nature, can take place only when the invading cells are living, as in the case of bacteria and other parasites. I see no reason why suitable substances derived from the host may not stimulate parasitic organisms, through a physiological mechanism similar to that operative in the development of cytolytic immunity, to the production of intermediary bodies, which, if provided with the requisite affinities, have the power to link complements to cellular constituents of the host and thereby to poison the latter. Expressed in terms of Ehrlich's side-chain theory, certain substances of the host of cellular origin, assimilable by the parasites through the possession of haptophore groups with the proper affinities, become anchored to receptors of the parasitic cell, which, if not too much damaged, is thereby stimulated to the overproduction of like receptors; these excessive receptors of the parasite, if cast off into the fluids or the cells of the host, there constitute intermediary bodies or amboceptors with special affinities for those cellular constituents or derivatives of the host which led to their production, and for others which possess in whole or in part identical receptors. Provided the host is supplied also with the appropriate complements there result cytotoxins with special affinities for certain definite cells or substances of cellular origin in the host. The contribution of the parasitic cells to these cytotoxins is the amboceptors. Either the parasite or the host may provide the complements.*

It may perhaps aid in grasping the ideas here presented to imagine the bacterium, in the capacity of the host, as a structure so large that one could inject into it animal cells. Provided the proper receptor apparatus is present, the resulting reaction on the part of the bacterium, as described, would be a process of immunization against the animal cells through the formation of specific cellulicidal substances. In reality it is only certain atomic complexes of cells which are concerned in this immunizing reaction, and in comparison with these even the smallest bacterium is a gigantic object.

Looked at from the point of view of the bacterium, as well as from that of the animal host, according to the hypothesis advanced, the struggle between the bacteria and the body-cells in infections may be conceived as an immunizing contest in which each participant is stimulated by its opponent to the producton of cytotoxins hostile to the other, and thereby endeavors to make itself immune against its antagonist. These mutually antagonistic cytotoxins are capable of injuring the parasitic cells, on the one hand, or the body-cells, on the other, only when, escaping combination outside of them, they are anchored to the receptors of the cells to which their respective affinities are adjusted. This combination with the cells, if it does not result in too great injury to them, is the condition for further production of the cytotoxic intermediary bodies through overproduction and discharge of receptors.* The important factors determining the issue of the contest are the relative proportions and the distribution of the bacterial and the host's cytotoxins.

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†Welch. Bulletin of the Johns Hopkins Hospital, July, 1890, and December, 1892.
Michaelis (Berliner klin. Wochenschr., 1902, No. 20) has recently reported similar findings.

*We may thus speak of xenogenic cytotoxins resulting from the action of bacterial stimuli on cells of the host, and of bacteriogenic cytotoxins from xenogenic stimuli, also of xenogenic and bacteriogenic complements.

The hypothesis thus outlined can be tested experimentally, but I regret that it has shaped itself in my mind so recently that I have not yet been able to make the desired experiments, which are, however, now started in my laboratory. Since my arrival here I am informed that these experiments have already furnished facts in its support.

Inasmuch as at least one component, and it may be both components, of the assumed bacterial cytotoxins preexist in the bacterial cells, it should be possible to demonstrate some of them in artificial cultures of bacteria, where they would be found especially as integral parts of the cells, unless extracted from the bodies of degenerating or dead bacteria. This corresponds with what is known concerning the situation of the poisons of the cholera spirillum, the typhoid bacillus, and other bacteria characterized by the lack of strong soluble toxins. But the quantitative and other relations between these cultural cytotoxins and those produced, in the manner described, by the same bacteria during processes of infection are comparable to those between the normal anti-bodies and the immune anti-bodies. These relations would explain the familiar fact that cultures of bacteria of the class under consideration constitute in genral only a partial and meager index of the toxic capacities of the same bacteria in the infected body. That cytolysins may, however, be present normally in large amount is illustrated by the hemolysins of eel's serum and of snake-venom.

In this theory degenerated and dead bacteria, while recognized as a source of poisoning in infections, are not assigned an exclusive rôle in this regard. Living bacteria in the infected body, where they are under nutritive conditions not paralleled in artificial cultures, actively produce and secrete receptors which may become the means of intoxication of the body-cells. From what has been said, we can comprehend how these diverse free receptors may enter into the formation of cytotoxins of the most varied and specific characters, such as erythotoxins, leucotoxins, neurotoxins, nephrotoxins, spermotoxins, hepatotoxins, etc. Very probably in many instances these toxins are represented by so few receptors in bacterial cells in ordinary cultures that it would be hopeless to search for them there, although we may have convincing experimental and pathological evidence that within the animal body the same bacteria produce them abundantly under the stimulus of appropriate substances derived from cells of the host.

The methods hitherto employed for the study of bacterial poisons have not generally been calculated to reveal the presence of toxins with the characters indicated, even if such existed in the cultures. Recently, however, a beginning has been made in this direction, and we have already become acquainted with certain toxins of an interesting nature, to which I desire to direct your attention.

Intrinsically, and in their general bearing upon the subject before us, the recent investigations of Flexner and Noguchi upon the constitution of the toxins in snake-venom are of especial importance. It was in snake-venom that Weir Mitchell and Reichert first demonstrated the existence of that class of poisons often called, although with doubtful propriety, toxic albumins. Investigations of snake toxins are of peculiar interest for many reasons not the least of which is their resemblance to bacterial toxins. The demonstration by Sewall of the possibility of active immunization from venom and the further studies by Calmette and Fraser of this phenomenon, and especially of the protective and curative properties of antivenin, are well known.

Until recently it has been generally held that the venom toxins resemble in molecular structure the diphtheria and the tetanus toxins in being single bodies with a combining or haptophore group and a toxophore group of atoms. The researches of Flexner and Noguchi, now in progress, of which only the first part has been published,* necessitate a quite different conception of the nature and manner of action of venom toxins than that previously entertained. I have followed with great interest the work of Professor Flexner on toxins, begun several years ago in my laboratory when he was my assistant and associate, and since continued along new lines in his laboratory at the University of Pennsylvania, and I wish to acknowledge his generosity in permitting me to use in this lecture certain unpublished results of his and Noguchi's investigations.

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*It will be observed that these discharged receptors may be regarded as the equivalents of anti-immune bodies. E. W. Ainley Walker in an interesting and suggestive paper on "Immunization against Immune Sera" (Journal of Pathology and Bacteriology, March, 1902) shows experimentally that bacteria growing in immune sera produce anti-immune bodies and thereby become more virulent. He concludes that "the basis of bacterial virulence and of chemiotactic influence is identical, and constitutes that atom-group which causes the production of the immune body." My hypothesis includes the conception supported by Walker and also much more. According to the hypothesis certain anti-bodies of bacterial origin are capable not only of neutralizing immune bodies of the host but with the aid of complements also of poisoning the cells of the host. It is not difficult to imagine various conditions in which the anti-bodies of bacterial origin may escape neutralization before entering into union with the host's cells. The substances which stimulate bacteria to produce these anti-bodies need not necessarily be toxic to them; in fact, toxicity, such as that of strong bactericides of cellular origin, would hinder their production. The essential things are that the stimulating substances have the requisite combining groups for bacterial receptors, and that the cast-off receptors be complemented within the body of the host.

Each of the various bacteriogenic cytotoxins probably contains a multitude of partial amboceptors with varying cytophilic and complementophilic affinities, in accordance with the views of Ehrlich and Morgenroth.

It is self-evident that through a mechanism similar to that described parasites within the infected body may be stimulated by atom-groups derived from the host to the production also of anti-bodies other than cytotoxins, such as various agglutinins, precipitins, anti-enzymes, and perhaps of uniceptors of the nature of secreted, soluble toxins, or of enzymes, all adjusted against the host.

Questions relating to the source and nature of the complements, particularly of intracellular complements, and also to anticomplements, are manifestly of importance in relation to the hypothesis, but it would complicate the subject too much to discuss these and other matters here, where my purpose is merely to outline the essential features of this new theory of infection with reference to the particular points under consideration.

*Flexner and Noguchi. Snake Venom in Relation to Hemolysis, Bacteriolysis, and Toxicity. Journal of Experimental Medicine, March 17, 1902. Vol. VI., p. 277.

These investigations have shown that the toxic action of venom upon red blood-corpuscles, leucocytes, nerve-cells, and other cells is like that of the duplex cytotoxins already described; that is, it depends upon the combination of intermediary bodies contained in the venom, on the one hand with the animal cells for which these bodies respectively have affinities, and on the other hand with corresponding complements contained, not in the venom, but in the cells or fluids of the animal acted on. For example, it is well known that the addition of venoms to fresh blood brings about the quick destruction and solution of the red corpuscles. If, however, certain venoms be added to red corpuscles which have been thoroughly washed with isotonic salt solution, so as to remove all the complement, the corpuscles are agglutinated but not dissolved, although it can be shown that substances from the venom (intermediary bodies) have entered into combination with the corpuscles. If now a little fresh serum, which contains the complement and by itself may be an excellent preservative of normal corpuscles, be added to these venomized corpuscles, they are promptly dissolved.

Preston Kyes, working in Professor Ehrlich's laboratory, in an investigation just published* on the mode of action of cobra-venom, confirms the conclusion of Flexner and Noguchi concerning the amboceptor nature of cobra-venom, and adds much that is new and important to our knowledge of this subject. He finds that the washed blood-corpuscles of certain animals are directly dissolved by cobra-venom, while those of other animal species require the subsequent addition of complements or adjuvants to bring them under the influence of the venom. But even in the former case a complementary body is essential to the reaction, this, however, being not a serum complement, but an endocomplement contained within the red blood-corpuscles. Of great significance is the demonstration by Kyes of still a third substance, namely, lecithin, which is capable through combination with the venom intermediary body of completing the hemolytic potency of venom.† The discovery for the first time of a definite, crystallizable substance with the power of uniting, like a complement, with an intermediary body, and thus completing the formation of acytotoxin, is evidently of fundamental importance. The suggestion by Ehrlich and Kyes that possibly the cholin group is the toxophore group of lecithin is particularly interesting in the light of F. W. Mott's valuable studies of chemical processes concerned in degenerations of the nervous system.

The researches of Flexner and Noguchi and of Kyes therefore have taught us that in poisoning by venom the bodies of human beings and of animals contain in the form of complements, or alexins* as they are also called, the substances which are most directly concerned in the act of poisoning. The venom serves merely to bring into the necessary relations with constituents of the body-cells poisons we already harbor or may generate, but which are harmless without the intervention of intermediary bodies. These poisons within us are powerful weapons which, when seized by hostile hands, may be turned with deadly effect against our own cells, but which are also our main defense against parasitic invaders. We see here as everywhere that nature is neither kind nor cruel but simply obedient to law.

Flexner and Noguchi have demonstrated experimentally that, like the hemolytic, so also the leucotoxic, the neurotoxic, and other cycotoxic properties of venom depend upon combinations of venom intermediary bodies with complements contained in the cells poisoned by venom or in the fluids bathing these cells. Particularly striking are their experiments showing in vitro and under the microscope the cytolytic action of cobra-venom upon certain large molluscan nerve-cells in the fresh state. The complement essential to this reaction is contained within the nerve-cells. In previous experiments of Flexner and Noguchi there had been indications that a special class of intracellular complements are concerned in some of the toxic effects of venom upon cells. The positive demonstration by Preston Kyes of a special class of intracellular complements or endocomplements is unquestionably of great pathological interest, and seems destined to play an important part in the explanation of many morbid conditions both in connection with endogenic and exogenic intoxications, probably also in such phenomena as self-digestion or autolysis.

Snake-venom is a rich mine of diverse toxins, and, on account of its pathological importance, I must mention one of the cytotoxins discovered there by Flexner and Noguchi, as it may be that a similar toxin is produced by certain bacteria and under still other conditions. As is well known, one of the most striking lesions resulting from poisoning by certain venoms is the occurrence of abundant hemorrhages in various tissues of the body. This effect has been generally attributed to the direct action of venom on the red corpuscles and on the coagulability of the blood, but the experiments of Flexner and Noguchi indicate that these hemorrhages are due to the presence in venom of a cytotoxin which has the power of dissolving endothelial cells, in other words an endotheliolysin. Dr. Flexner suggests the name "hemorrhagin" for this special toxin, which causes extravasations of blood through its direct solvent action upon capillary endothelium, an effect which is readily demonstrable under the microscope. It is hardly necessary for me to stop to emphasize the clinical and pathological importance of the discovery of an endotheliotoxin, a kind of poison which may prove to be of special significance in the interesting group of hemorrhagic infections, and perhaps also in purpura and kindred affections.

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*Preston Kyes. Ueber die Wirkungsweise des Cobragiftes (Berliner klin. Wochenschr., 1902, Nos. 38 and 39). I am greatly indebted to my friend Professor Ehrlich and to my former pupil Dr. Kyes in putting me in possession of the main results of these interesting experiments before the date of their publication.

† The objections made by Calmette (Compt. rend. Acad. d. Sc., 1902, T. 134, No. 24) to Flexner and Noguchi's interpretation of their experiments as to the amboceptor nature of venom have been completely overthrown by the experiments of Preston Kyes.

*There is some objection to the use of the term "alexin" as a synonym for "complement," as the former was applied originally by Buchner to substances which we now know to be combinations of complements with intermediary bodies.

The foregoing newly discovered facts, which I have sketched only in bare outline, illustrate in a striking way the fruitfulness of methods and conceptions which we owe to recent studies of immunity. The results of these investigations, however, are significant beyond the mere facts disclosed, important as these are. They have for the first time revealed in normal toxic secretions, readily introduced under conditions of nature into the tissues of man and animals, cellular poisons akin to the complex hemolysins, neurotoxins and other cytotoxins of immune and some normal sera, which have aroused so much interest and experimental study during the past four years. The most noticeable difference between the venom cytotoxins and those hitherto observed in immune sera is the far greater resistance to heat of the intermediary bodies of the former, but we are already acquainted with considerable variations in the sensitiveness to heat both of different intermediary bodies and of complements. That snake-venom should contain only one half of the complete poison, the other and the really destructive half being widely distributed in the blood and cells of man and of animals, is an instance of a curious kind of adaptation, of interest from evolutionary, as well as from other points of view.

In consideration of the often emphasized analogies between venom toxins and bacterial toxins, these facts render it highly desirable to make a systematic search of bacterial cultures by proper methods and under suitable conditions for complex cytotoxins. At present substances of this nature are not known to exist in our cultures. There have been discovered, however, within the past three or four years certain bacterial toxins which have a curious resemblance in some of their properties to the complex antibodies of blood, although, so far as they have been carefully studied, they appear to have the simpler constitution of the soluble toxins, like those of diphtheria and of tetanus. I refer to the bacterial hemolysins, leucolysins, hemagglutinins, precipitins and coagulins. There is no reason to suppose that this list exhausts the number of those actually present, for it is evident that it includes chiefly bodies readily demonstrable in test-tube experiments. It would be surprising if cytotoxins which act specifically upon red and white blood-corpuscles were the only ones of this class produced by bacteria; in fact, we have every reason from pathological observations to believe the contrary.

It has become evident that more refined methods than mere observation of the coarse effects of injecting into animals the filtrates or the killed bacteria of our cultures are required for the detection of the subtler and more specific cellular poisons. Instances are rapidly increasing in which by improved methods, cultures of bacterial species once believed to be practically devoid of toxicity are found after all not to be so poor in toxins, even of the soluble variety. One of the earliest and most instructive illustrations of this is the discovery by Van der Velde of a leucocyte-destroying poison, named leucocidin, in exudates caused by infection with *Staphylococcus aureus,* and also in filtrates of staphylococcus cultures, which had been previously regarded as almost if not entirely free from toxic power.

More widely distributed in cultures of different species of bacteria are the hemolysins of which the first example, discovered in 1898 by Ehrlich in cultures of the tetanus bacillus, was carefully studied by Madsen the following year, and which have since been investigated by Kraus with Clairmont and with Ludwig, Bulloch and Hunter, Neisser and Wechsberg, Todd, Besredka, and others. The list of bacterial species known to produce in cultures substances of this nature capable of dissolving red blood-corpuscles is already a long one and includes the bacilli of tetanus, of green pus, of typhoid fever, of acute dysentery, of diphtheria, of plague, the pyogenic staphylococci and streptococci, the pneumococcus and many other bacteria. Nuttall and I noted in our first description of *Bacillus aërogenes capsulatus* over ten years ago its capacity of laking blood so that I was not surprised to find recently that a hemolysin can be demonstrated in cultures of this organism. The blood-destroying property appears to stand in no definite relation to virulence, nor is it limited to pathogenic bacteria. It pertains also to many putrefactive bacteria. The strongest bacterial hemolysin hitherto observed was found by Todd in cultures of *Bacillus megatherium,* which is a widely distributed saprophyte.

As already stated, none of these bodies has been shown to belong to the class of complex hemolysins in blood, which have been far more exhaustively investigated than any other of the specific anti-bodies. Doubtless there is at present among bacteriologists too great a tendency to attribute to the less carefully studied anti-bodies characters which have been worked out in detail only for the hemolysins of immune serum. It would lead too far to attempt here a discussion of the special characters of the various bacterial hemolysins, which present in different specimens curious and at present unexplained divergencies as regards resistance to heat and several other properties. It must suffice to indicate briefly what is known of the pathological importance of this interesting group of bacterial toxins.

In view of the abundant clinical and pathological evidence of extensive destruction of red corpuscles in the course of many infectious diseases, it is certainly significant to find that many bacteria are endowed with a specific hemolytic power. The question is how far we are justified in applying to the actual conditions of infection the existing experimental data upon this subject. Assuredly here, as everywhere, results of test-tube experiments, helpful in suggestion as they may be, should not be utilized without further evidence to explain morbid phenomena within the infected human or animal body. While much more work upon this subject is needed before our information will be exact or complete, the observations and experiments of Besredka,* Kraus and Ludwig† and others have already demonstrated that bacteria may exert their blood-destroying power within the living body. This hemolytic capacity of micro-organisms affords an explanation, although certainly not the only one, of the secondary anemias which are such a marked feature of many infectious diseases, as streptococcus and other septic anemies, pneumonia, typhoid fever, scarlatina and others. The hemoglobinuria which is a recognized, although rare complication of various infectious diseases may be referable to intoxication with unusually powerful bacterial hemoglysins, or to an exceptional lack of resistance of red corpuscles. Hemoglobin, however, is not necessarily present in solution in the blood-plasma, for the destruction of the damaged red corpuscles may take place within the large phagocytes of the spleen and the hemolymph glands, as is well known to occur on an extensive scale in typhoid fever and some other infections. A familiar example of the action of bacterial hemolysins is the postmortem reddening of the inner lining of the heart and blood-vessels, an effect which may be due to putrefactive bacteria, or may appear very soon after death, especially from septicemia caused by Streptococcus pyogenes which, as has been shown, may lake the blood during life.

The fact that certain common saprophytic bacteria may produce energetic hemolysins, as pointed out by Kraus and Clairmont and by Todd, has a possible bearing upon the etiology of certain obscure anemias not of infectious origin, particularly upon the interesting observations and the theory of William Hunter concerning their causation by absorption of toxins from the alimentary tract. Todd found cultures of *Bacillus megatherium* so strongly hemolytic that the intravenous injection of 1 c.c. of the filtrate into guinea-pigs was followed by hemoglobinuria, 10 c.c. being fatal. Human red corpuscles are sensitive to this hemolysin.

Normal human and other blood-sera contain in varying amounts antihemolysins, which protect the red corpuscles from the action of some of the bacterial hemolytic agents. Specific antihemolysins are readily produced by immunizing injections of bacterial hemolysins, and are generated also in the course of infections. Lang suggests that the augmentation of the osmotic resistance of the erythrocytes which has been noted in some infectious diseases, as well as in icterus and some other morbid conditions, may be a reactive phenomenon caused by the presence of hemolytic toxins.

Intimately associated with the hemolysins in cultures are the bacterial hemagglutinins (Kraus* and Ludwig*), substances which have the power to clump red blood-corpuscles. Among unicellular organisms both the capacity to produce agglutinins and the aptitude for agglutination seem to be very widely distributed. The bacterial hemagglutinins, in analogy with the bacterial hemolysins, are apparently of simpler constitution than the serum agglutinins, being destroyed at 58° C., whereas the latter are not injured by temperatures under 70° C. In order to demonstrate in cultures the hemagglutinins, it is generally necessary to eliminate in some way the action of the associated hemolysins, which can be done by using small quantities of the culture fluid or by keeping the mixture of fluid and red corpuscles at zero temperature.

I know of no observations directly demonstrative of the action of bacterial hemagglutinins within the living body in infections, but this subject is of such recent knowledge that it has been as yet scarcely investigated. Certainly there are morbid conditions which seem highly indicative of the operation of substances agglutinative of red corpuscles. Probably everyone with large experience in the examination of fresh blood in disease has noticed that sometimes red corpuscles, examined immediately after withdrawal of the blood, have a peculiar tendency to form clumps which cannot readily be broken up. This phenomenon, which is certainly suggestive of the action of an agglutinating agent, I have observed especially in some cases of septic infections and of cirrhosis of the liver.

Furthermore, I would emphasize the support given by the recognieion of hemagglutinins to views advocated many years ago by Hueter and by Klebs concerning the occurrence of thrombi composed of coalesced red blood-corpuscles. Such thrombi I believe to be not uncommon in typhoid fever and other infections, especially in small blood-vessels. I have elsewhere called attention to the evidence in favor of the interpretation of many of the hyaline thrombi as derived from agglutinated red corpuscles.

It can scarcely be doubted that substances agglutinative of white blood-corpuscles are also produced by certain bacteria and that these are concerned in the clumping of pus-cells and of leucocytes within the living body, but it would not be profitable to discuss this matter without more exact information than we now possess.

In this connection I may say that not only

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*Besredka, Annales de l'Institut Pasteur, 1901, XV., p. 880.
†Kraus and Ludwig. Wiener klin. Wochenschr., 1902, p. 382.

*Kraus and Ludwig. Wiener klin. Wochenschr., 1902, p. 120.

the discovery of the bacterial hemagglutinins, but also that of the hemolysins and the leucolysins, is likely to shed new light upon certain aspects of the difficult subject of thrombosis. The red corpuscles undergo various morphological changes under the influence of different bacterial hemolysins acting with varying intensity. Distortions of shape, throwing out of projections, and detachment of colorless particles resembling platelets can sometimes be seen. These observations are of especial interest with reference to the doctrine, already strongly supported, that platelet thrombi originate from disintegrated red corpuscles. Levaditi, and Neisser and Wechsberg have described, as the result of intravenous injections of *Staphylococcus aureus,* areas of coagulative necrosis in the rabbit's kndney, which they attribute to thrombi composed of disintegegrated leucocytes caused by the staphylococcus leucocidin, to which I have already referred.

I have dwelt at some length, although of necessity incompletely, upon the bacterial hemolysins, leucocidins and hemagglutinins, because we are better informed about these agents than concerning other members of this recently recognized class of bacterial toxins. I have already expressed the opinion that similar poisons acting specifically upon other cells of the body are produced by bacteria; indeed, neurotoxins and nephrotoxins of this type have been reported. The difficulties in the way of direct proof of the existence of these other bacterial cytotoxins are greater than in the case of those acting upon the red and the white blood-corpuscles, but doubtless they can be overcome. Of course we have evidence of the action of bacterial poisons upon various body-cells, but this is not enough. At present we can apply only in a vague and unsatisfactory way to the explanation of pathological processes most of the knowledge of this kind which we possess. What is urgently needed is a separation of these poisons and a determination of their source, constitution, mode of action, and degree of specificity along such lines as have been followed so fruitfully in the investigation of the soluble diphtheria and tetanus toxins, these other toxins of bacteria and of venom already considered, and the cytotoxins of normal and of immune serum. The path leading apparently in the right direction has already been opened and, if I mistake not, its further pursuit is most promising of valuable results in the near future.

Consider by way of illustration how helpless we now are in our efforts to explain the characteristic lesions of typhoid fever on the basis of our knowledge of the properties of the typhoid bacillus. That these lesions are referable to the action of toxins cannot, I think, be seriously questioned. Especially from the investigations of Mallory we know that the most characteristic histological changes of this disease consist in the proliferation of the reticular or so-called endothelial cells of the lymphatic tissue of the intestine and the mesenteric glands and of similar cells in the splenic pulp, and in the assumption by these proliferated cells of remarkable phagocytic activities toward the lymphocytes in the former situations and toward the red corpuscles in the spleen. Mallory believes that these changes are best interpreted by supposing that the typhoid toxin directly stimulates to proliferation the endothelial cells, which then devour their offspring, the lymphocytes, and the red corpuscles. I have suggested as another explanation that the typhoid bacillus produces a lymphocytotoxin and an hemolysin, and that the proliferation of the fixed cells is partly compensatory and partly for the increased production of macrophages. We already know that this bacillus generates a hemolytic agent, and we also know that one of the effects of injection of hemolysins is to increase greatly the number of macrophages containing red corpuscles in the spleen. Through the kindness of Professor Flexner I have had the opportunity of studying the extraordinary changes produced in all the lymphatic glands and in the bone-marrow of rabbits by injections of lymphotoxic or myelotoxic serum obtained by treating a goose with lymphatic or marrow tissue of the rabbit. One of the most striking effects of this poison for lymphocytes and other leucocytes is the very extensive proliferation of the reticulum-cells in the lymphatic nodes and of the marrow-cells. In the light of these observations it is clear that a positive demonstration of the production of a lymphotoxin by the typhoid bacillus would materially advance our understanding of the morbid anatomy of typhoid fever. Another lesion of this disease only second in importance to those mentioned is the occurrence of plugging of the small vessels. Dr. Fisher in my laboratory has recently shown that such thromboses are produced by the experimental inoculation of rabbits with the typhoid bacillus. I have already pointed out that many of these plugs are agglutinative thrombi.

Of course infectious diseases other than typhoid fever could also be cited, did time permit, as equally forcible illustrations of the aid which pathology may reasonably expect from more precise knowledge of the bacterial cellular poisons. It is probable that such knowledge will lead to improvements in the quality for therapeutical purposes of the so-called bacteriolytic sera, some of which, as now prepared, are not wholly devoid of antitoxic properties as is often representedsented. We may also anticipate from investigations of the character indicated much light upon one of the most puzzling of bacteriological problems, the localization of bacteria in disease. Toxic lesions and the plugging of small blood-vessels are certainly often of decisive influence in determining this localization, as has been demonstrated especially for the staphylococcus pyemias by Muscatello and Ottaviano.*

The toxins to which I have chiefly directed your attention in this lecture are those produced by bacteria. But, as already pointed out, we now know that the animal body has the power to produce specific poisons directed not only against invading bacterial cells but also against all sorts of foreign cells. Following the discovery by Belfanti and Carbone in 1898 of this capacity in relation to injections of blood a wholly new domain of biology has been opened to experimental research. Attention has been withdrawn for the moment to a considerable extent from the bacterial toxins and concentrated upon the animal cytotoxins. Here new facts and conceptions of absorbing interests have been disclosed in an abundance and with a rapidity which are simply bewildering.

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*Muscatello and Ottaviano. Virchow's Archiv, 1901, CLXVI., p. 212.

It was my original design to include in this lecture a consideration in some detail of these animal cytotoxins, but so much time has been occupied with other aspects of the subject that I am compelled to abandon this intention. This is perhaps less to be regretted inasmuch as I understand the main purpose of these lectures to be the presentation of applications to medicine and surgery of scientific discovery, and it is precisely this side of the recent work on animal cytotoxins which seems to me in the main not yet ripe for profitable discussion on this occasion. It is true that facts of much scientific and practical interest have been discovered by the investigations, initiated by Shattock and by Greenbaum, followed by Landsteiner, Ascoli, Eisenberg, Kraus and Ludwig, and others, concerning the isoagglutinative and isolytic properties of human sera in health and in disease. But the really great practical questions in this domain relate to the production of autocytotoxins in the human and animal body. What is the nature of that very efficient regulatory mechanism underlying the horror autotoxicus (Ehrlich) which prevents either the action or the formation of autocytotoxins in consequence of absorption of our own degenerated and dead cells? Can this protective mechanism be overthrown by pathological states and self-generated cellular poisons become operative in the causation of anemias, hemoglobinurias, chronic interstitial inflammations, uremia, eclampsia, epilepsy, and other diseases? To these and similar important questions the existing experimental data seem to me too insufficient and inconclusive to furnish any decisive answer at present. I share, however, the hope and belief of many that there is a field for exploration which, although surrounded with many difficulties, gives promise of discoveries of a far-reaching and important nature. I anticipate that some future Huxley lecturer will find in this realm a fascinating theme.

In this connection may be mentioned the great pathological interest pertaining to the recent investigations of Jacoby, Conradi and others on the phenomena of self-digestion or autolysis of inflammatory exudates and necrotic material within the living body. One can readily convince himself of the energetic action of autolytic ferments by the simple experiment of placing a piece of fresh pneumonic lung in the stage of gray hepatization under chloroform and noting the rapid solution of the exudate, in contrast with the absence of this process in earlier stages of the disease. Conradi finds that bactericidal substances, to which he attaches much importance, are produced in tissues and cellular exudates undergoing autolysis.

Although my theme relates especially to the bearing of studies of immunity on pathology, it is hardly necessary to say that these studies were primarily undertaken to elucidate the great problems of predisposition and resistance to disease and that in this field they have borne their richest fruits. It is especially gratifying to note the close convergence of the two doctrines of immunity, the cellular and the humoral, brought about by these recent discoveries. On the one hand, the phagocytic school, represented so brilliantly by Metchnikoff and his coworkers in the Pasteur Institute, recognize and apply to the fullest extent in the explanation of acquired immunity the cytolytic principles based upon the cooperative action of intermediary bodies and complements. On the other hand, the humoral school, led by our German confrères, which has been so fruitful in results of the greatest scientific and practical value, recognize the cells, and especially the leucocytes and other cells of the blood-forming organs, as the immediate source of the protective substances. There are many differences in details, especially in terminology and in interpretation, which makes the divergence seem greater than it really is. The essential difference between the two schools concerns the place where the two forces, intermediary body and complement, unite. All are agreed that the intermediary body exists free in the blood-plasma, but Metchnikoff strenuously insists, especially on the basis of Gengon's experiments, that the complement or cytase is within the leucocytes, from which it is not secreted, but can be liberated only through damage to these cells. This question certainly needs further investigation before it can be regarded as settled. The recent recognition and complements through researches made in Ehrlich's laboratory marks a still closer approximation of the two schools.

The deeper insight which we have recently gained into the nature of the forces concerned in immunity makes especially desirable the systematic study of the blood and other fluids of human beings in health and in disease with reference to their content of specific anti-bodies, particularly of the bactericidal substances. It can scarcely be doubted that knowledge of this kind will be in various ways of practical value to the physician and surgeon. The simplest procedure, and the one hitherto generally adopted, is the estimation of the bactericidal power of the blood-serum in toto. For this purpose Professor Wright* has devised an ingenious method which in his hands has furnished extremely interesting information concerning variations in the bactericidal power of the blood as regards the typhoid bacillus in health, under the influence of fatigue, in the course of typhoid fever and after antityphoid inoculations. The older methods, however, while not without value, do not inform us of the total content of the blood in immunizing substances, and have led to very discordant results, particularly as to the influence of infection upon the bactericidal power. Thus Conradi* finds, in opposition to most previous experimenters as well as to the later results of Wilde, that infection with the anthrax bacillus does not at any stage influence materially the bactericidal properties of the blood.

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*A. E. Wright, Lancet, 1898, I., p. 95; 1900, II., p. 1556; 1901, I., pp. 609 and 1532; and 1901, II., p. 715.

A useful and readily applicable method for the determination separately of the intermediary bodies and of the complements of human serum is urgently needed. When one takes into consideration the plurality of complements and of intermediary bodies, the fallacies of interpretation which may arise from failure to take account of anticomplements, of anti-immune bodies, of complements, of amboceptoids, of deviation (Ablenkung) of complements, and other principles in this complicated subject, it is clear that the problem is not an easy one.

Notwithstanding these difficulties work has already begun along these new lines and has led to interesting results. We know that the content of the blood in specific anti-bodies, and especially in complements, varies in significant ways under diverse conditions, as in infancy and in adult life, in health, in different states of nutrition, under the influence of fatigue, of inanition, of pain, of interference with respiration, of alcohol, and in disease. The infant comes into the world with protective anti-bodies in its blood smaller in amount and less energetic than those possessed by the healthy adult. It is an important function of the mother to transfer to the suckling through her milk-immunizing bodies, and the infant's stomach has the capacity, which is afterward lost, of absorbing these substances in an active state. The relative richness of the suckling's blood in protective anti-bodies, as contrasted with the artificially fed infant, explains the greater freedom of the former from infectious diseases.

The important question of the influence of preexistent disease in predisposing to infection has been brought nearer to a solution by recent studies of immunity. Schutze and Scheller† have demonstrated that while the normal rabbit promptly regenerates the complements used up in consequence of the injection of hemolytic serum, a rabbit infected with the hog-cholera bacillus has lost this capacity. My former pupil, Dr. Longcope, has kindly placed at my disposal the unpublished results of an investigation which he is making under Professor Flexner's direction at the Pennsylvania Hospital of the intermediary bodies and the complements in human blood in different diseases. Colon and typhoid bacilli are used as the tests, as, unless one accepts Bordet's doctrine of the study of complements, it is more important for the study of problems of infection to determine bacteriolytic than hemolytic anti-bodies. One of the earliest results of the systematic bacteriological examinations which we make at all autopsies at the Johns Hopkins Hospital was the recognition of the great frequency of terminal infections, formerly often undetected by the clinician, in chronic diseases, particularly of the heart, the blood-vessels, and the kidneys. Dr. Longcope finds, although not regularly, still in many cases of these diseases, a marked reduction in the quantity of complements, which may amount to a total loss of the colon complements. The analysis of the cases brings out unmistakably a definite relation between this loss of complement and the predisposition to infection. The study of a series of acute infections, chiefly of a surgical nature, shows that in the course of the infection complements are being constantly used up and regenerated, and that at any given time there may be an excess or a reduction of the bacteriolytic power of the blood. Thus far it has been found impossible in these acute infections to attach any prognostic significance to the amount of complement or of bacteriolytic power, nor could any definite relation be determined between the leucocyte count and the content of complements.

Although we have traversed, Gentlemen, in this lecture a path which I fear has seemed to you a long and winding one, I am conscious that I have been able to point out the features of the prospect only imperfectly and incompletely. The extent and the richness in details have been embarrassing. I trust, however, that I have been able to indicate in some measure the great interest and importance to biology, to physiology, to pathology, to every department of medical science and art of investigations which have led to a deeper insight into certain manifestations of cellular life. What has been conquered by these investigations is simply a bit of new territory pertaining to the intimate life of the cells, and we find here, as whenever we are able to penetrate deeper into this life, that there comes a flood of new light into every department of biology. The researches on immunity, which to some of short vision once seemed to threaten the foundations of cellular pathology, have served only to strengthen them. These researches, which have already led to the saving of thousands of human lives, and will lead to the saving of untold thousands more, have been carried on by the experimental method, and can be conducted in no other way. This method is as essential for the advancement of medical science as for that of any of the natural or physical sciences. To restrict unnecessarily and unjustifiably its use is nothing short of a crime against humanity. It is an evidence of the robust vitality of English physiology and medicine that in spite of unwarrantable obstacles thrown in their path their contributions to science in recent years have been so numerous and so important. The influence of English thought and action is great with us in America. See to it, my colleagues and men of science in England, that you retain for yourselves and hand down to your successors, at least without further impairment, the means of promoting medical knowledge and thus of benefiting mankind.

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*Conradi. Zeitschr. f. Hygiene, 1900, XXXIV., p. 185; 1901, XXXVIII., p. 411.

† Schutze and Scheller. Zeitschr. f. Hygiene, 1901, XXXVI, pp. 270 and 459.

ORIGINAL ARTICLES.

DRUG HABIT: REVIEW OF ARTICLES BY DRS. HARE AND LOTT.*

BY GEO. E. PETTEY, M.D.,
OF MEMPHIS, TENN.:

Two articles have recently appeared in medical literature that deserve particular attention and invite some criticism. One, from the gifted pen of Dr. H. A. Hare of Philadelphia, is entitled "A New Method of Treating the Morphine and Alcohol Habits," and was published in the MEDICAL NEWS of June 7. The other, treating of "The Drug Habit and Its Cure Without Pain," is by Dr. M. K. Lott of Cameron, Texas. This was published in the Therapeutic Gazette for February, 1902. These articles are both on the use of hyoscine in the treatment of drug and liquor addictions, and are valuable contributions to our literature. At the same time they contain certain statements which, to say nothing worse, are likely to impair their usefulness.

Dr. Lott reports the treatment of a series of cases of morphine and whiskey habit with hyoscine; and Dr. Hare says, "I have tried this plan in six cases with extraordinary results from the following points of view: First, the patient can take massive doses (of hyoscine) for days at a time, as much as one-fourth of a grain each day hypodermatically, with no evil effect on any vital function; second, they suffer very little, if at all, from the immediate withdrawal of morphine, and third, and more surprising, the desire for the drug is largely, if not entirely, dissipated after a few days."

I can confirm the second and third of these statements, but the first is so broad and sweeping that it should not go without challenge, since, if it were followed, it would inevitably result disastrously, and soon bring a most valuable plan of treatment into disrepute, if not into round condemnation. It is unfortunate that such a statement should have been made by one occupying the position and speaking with the authority of Dr. Hare.

One-fourth of a grain of hyoscine administered in 24 hours is a little more than one one-hundredth of a grain each hour. I have had quite an extensive experience with this drug and have watched its effects very closely. Within the last four years I have treated 350 cases of drug and liquor addictions with hyoscine as the principal active agent; and basing an opinion upon that experience, I am prepared to say that there are as many people who can not safely take one one-hundredth of a grain of hyoscine every hour for days at a time as there are who can with safety take that quantity, and that such dosage, routinely administered, as advised by these gentlemen, would frequently prove fatal. I know of no other drug whose effects vary so greatly with different individuals as do those of hyoscine, none that requires such close and discriminating care in its administration. To illustrate the wide difference in the effects of this drug on different individuals, and to show that its prolonged administration in the treatment of morphinism is not necessary, I will give the clinical notes of a few cases.

Mrs. B., aged fifty-two years, weight 140 pounds, had a morphine habit of 15 years' standing. Her daily quantity was 10 grains taken by mouth in two doses. She came for treatment October 9, 1899. The usual dose of morphine was given at 3 P.M. Patient received a Turkish bath, was deprived of her supply of morphine, and placed in room specially prepared for her with a trained nurse in constant attendance. From 4 to 10 P.M. purgative course of calomel, cascara, strychnia and ipecac was given. The next morning this was followed by a full dose of castor oil, and later by a bottle of citrate of magnesia, from which the bowels were thoroughly empty by 10 A.M. The bowels having acted freely, there was no demand for morphine until 2 P.M., at which time she said she was nervous and aching and wanted her dose. At that time her pulse was 65, full and regular; respiration 18; skin moist, but not sweating. At 2 P.M. I gave one one-hundredth of a grain of hyoscine, repeating the dose at 3 and at 4 P.M. I then left the patient, expecting to return in two hours, but shortly before that time had expired I was hastily called to see her. I found her profoundly narcotized, breathing stertorously 8 to 12 per minute, with lower jaw dropped, skin bathed in perspiration, pulse 40 to 50 and irregular. She could not be aroused to any degree of consciousness.

The administration of restoratives, such as caffein, strychnia, nitroglycerin, hot applications to spine, etc., was at once begun, and was continued for three hours. At times there seemed to be some improvement, but soon these signs would disappear, and at the end of the third hour of these efforts her condition was decidedly more hazardous. Patient very much cyanosed; breathing more irregular and only from six to eight per minute; pulse more irregular and of less volume. At times responding to the stimulants, the pulse would run up to 60 or 70 to the minute, and would then drop back to a much slower rate, at one time being as low as 38 per minute. It seemed that all remedies at hand were failing, and that my patient would soon die in spite of all efforts to save her. The excessive diaphoresis and failing pulse-volume caused me to think of the possible efficiency of saline solution. I injected one quart of normal salt solution into the cellular tissues, and the same quantity into the bowel with a long colon tube. In less than 30 minutes there were distinct signs of improvement; within an hour her breathing was fairly good, 12 to the minute; cyanosis had disappeared; pulse was 50 and of fair volume; sweating less profuse, and the extreme prostration had given way to a condition of fair tone. Her condition gradually became more normal. In three hours from the time the first salt solution was given it was repeated, and she was allowed to continue to sleep without efforts to arouse her. From this time on her condition was satisfactory; sleep was a little more profound than natural, but respiration and circulation were good. Sixteen hours from the time the last dose of hyoscine was given she awoke voluntarily, but was languid and drowsy for several hours more. At the end of this time she began to complain of pain in her back and limbs. I gave her one two-hundredth of a grain of hyoscine and repeated the dose in 30 minutes. This gave relief which continued for a period of six hours, when the limbs were again uncomfortable. She said she had no desire for morphine but would like to have something to stop the aching in her legs. I gave one one hundred and fiftieth of a grain of hyoscine, which brought complete relief, and when the effects of this had subsided the pain did not return. Not another dose of medicine of any kind was given in the case. She had no desire for morphine or any other stimulant, but expressed herself as feeling well and desired something to eat. Liquid nourishment was given and retained, and within three days she was eating heartily and said she enjoyed her food more than she ever had done before. At that time the most remarkable feature of this case to me was the fact that she could sleep from five to seven hours every night and then frequently take a nap of an hour or more during the day. She made an uneventful and rapid recovery, gained 30 pounds in flesh in four months, and has remained free from the morphine habit from that day to this. Her husband says that instead of her former sedentary and seclusive habits she now wants to be up and going all the time, and would not willingly take a dose of morphine even to save her own life.

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* Read before the Tri-State Medical Society of Georgia, Alabama and Tennessee, at Birmingham, Alabama, October, 1902.

There is little doubt that this patient would have died from the effects of the three one-hundredth grain doses of hyoscine given her had it not been for the happy effect of the normal salt solution. It evidently saved her life by increasing the volume of the circulating medium and by rendering less concentrated the narcotic poison it held.

I have had quite a number of cases that were extremely sensitive to the effects of hyoscine, but the following case shows about as marked intolerance as any: Mrs. E. D., aged thirty years, blonde, weight 125 pounds, had a morphine habit of 13 years' standing, her daily quantity being 20 grains taken hypodermatically in three doses. From 4 to 10 P.M., July 27, 1901, a mercurial and vegetable cathartic was administered, also a vapor bath. The last morphine, seven grains, was allowed at 6 P.M. At 7 o'clock the following morning two ounces of castor oil was given, followed two hours later by a bottle of citrate of magnesia. The bowels began to act at 5 A.M., and between that time and noon six free evacuations occurred. Patient was fairly comfortable during the time, and did not ask for her drug until noon. At 12.25 P.M. I gave one one-hundred and fiftieth of a grain of hyoscine and one grain of sparteine. In 30 minutes the patient was asleep, and she slept an hour. Face was deeply flushed; respiration and circulation slightly accelerated. She awoke at 2 P.M., when her mind was clear. Then she complained of aching of limbs. At two P.M. I gave one two-hundredths of a grain of hyoscine, after which she fell asleep again, and slept about an hour. On waking, her mind was wandering, and she continued in a mild loquacious delirium until 6 P.M., when the mind began to clear, and as consciousness returned she said she was uncomfortable. At 9 P.M. I again gave one one hundred and fiftieth of a grain of hyoscine. Delirium was fully reestablished in 30 minutes, and for several hours it was of a more marked type, continuing without material abatement until 6.30 A.M. At that time she was in a measure conscious, complained of some discomfort, and said she would take morphine if she had it.

At 7 A.M., July 29, one two-hundredth of a grain of hyoscine and one grain of sparteine were given. Delirium recurred in a short time, continuing without any sign of abatement during the entire day, and even the next morning, twenty-four hours after the last dose of hyoscine had been given her mind was not entirely clear. During this time, although she had some lucid moments, she did not complain of any pain or discomfort whatever, and said she had no desire for morphine. No medicines of any kind were given her. During this day, July 30, the fourth from the beginning of treatment, she took liquid nourishment, suffered no pain or even discomfort, showed no abstinence symptoms of any kind, and while she said she felt weak, she had no desire for morphine. She was given a bath morning and evening, sat up most of the day, and slept between four and five hours that night without medicine of any kind, nor did she sleep less than that any night thereafter. I kept her with me three weeks. By the end of the first week her appetite was ravenous; she could eat anything she was allowed with impunity; had no diarrhea or other complication, and gained flesh at the rate of half a pound a day. At the end of the third week she was discharged in almost perfect health, looked like an entirely different woman, and at no time had she any desire for morphine, nor did she show any inclination to take other stimulants.

This case is remarkable because of the extremely small quantity of hyoscine required to bring the patient well under its influence, and for the length of time the effects of the drug continued. This patient would most likely have been made violently delirious, and probably thrown into convulsions, from cerebral congestion, or have been dangerously narcotized, by the administration of one one-hundredth of a grain of hyoscine every hour for even three or four hours in succession, not to speak of several days.

These two cases show the marked susceptibility of some people for hyoscine, and that the routine or careless administration of that drug is an extremely hazardous procedure. Ther are others who have an unnatural tolerance for this drug. The following case shows remarkable tolerance: Mrs. T. N., a blonde, aged twenty-five years, weight 120 pounds, five feet four inches in height, compactly built, was of a sensitive, nervous temperament. Her morphine habit was of four years' standing, and the daily quantity taken was 10 grains, hypodermatically, in four or five doses.

March 2, 1902, 4 to 10 P.M. Active purgative course of calomel, cascara, strychnia and ipecac. Last morphine, two and one half grains, at 9 P.M. Vapor bath.

March 3, 5 A.M. Bottle citrate magnesia. 7 A.M.—Bowels have acted several times, but character of actions not altogether satisfactory. Is suffering and wants morphine. 7 A.M.—Gave 1-200 grain hyoscine. 7.30 A.M.—Gave 1-200 grain hyoscine. 8 A.M.—Gave 1-100 grain hyoscine. 9 A.M.—No perceptible effect from doses given. 9 A.M.—Gave 1-75 grain hyoscine. 9.30 A.M.—Gave 1-50 grain hyoscine. 10 A.M.—Very little effect from preceding doses. Mouth slightly dry; is still suffering. 10 A.M.—Gave 1-50 grain hyoscine. 11 A.M.—Gave 1-50 grain hyoscine. Slept two hours; face flushed; mind clear; pulse and respiration slightly accelerated. 2 P.M.—Gave 1-25 grain hyoscine. Slept three hours; comfortable. 5.50 P.M.—Gave 1-25 grain hyoscine. 7 P.M.—Gave 1-50 grain hyoscine. Uncomfortable. 9 P.M.—Gave 1-25 grain hyoscine. 12 P.M.—Gave 1-25 grain hyoscine.

March 4, 4 A.M.—Gave 1-25 grain hyoscine. 7 A.M.—Gave 1-50 grain hyoscine. 7.45 A.M.—Gave 1-25 grain hyoscine. 8.30.—Gave 1-25 grain hyoscine. From 5.50 P.M. to 8.30 A.M. was quiet but not entirely comfortable, sleeping at intervals, mind clear up to 9 A.M. From 9 A.M. to noon mind wandered slightly, a very mild delirium, but at other times was entirely clear. Did not complain of discomfort until 1 P.M. 1 P.M.—Gave 1-25 grain hyoscine. Quiet and comfortable till 8 P.M. 8 P.M.—Gave 1-25 grain hyoscine. Nauseated. 9 P.M.—Gave 1-25 grain hyoscine. Slept two hours.

March 5, 1 A.M.—Gave 1-20 grain hyoscine. Slept three hours, and on waking mind was clear. Was comfortable; pulse 60, good volume; respiration 20; temperature normal; skin moist. Craved lemonade and buttermilk, which were given but vomited after an hour or so, and nausea continued most of the day. Vomited matter was green and offensive. As the day advanced she became more nervous and uncomfortable. The bowels not having acted for 36 hours, and not very satisfactorily at the beginning of treatment, 30 grains of hyposulphite of soda was given, and repeated every hour for four hours. The bowels then began to act, and a number of free bilious actions occurred. Nausea then ceased; there was no further marked discomfort in the case, and she made an uninterrupted recovery, never at any time expressing any desire for morphine, nor was that or any other medicine given. The bowels acted two or three times during each 24 hours, but no diarrhea or other complication occurred. She did not sleep more than two or three hours at night for the first few nights, but gradually improved in that respect until at the end of 10 days she was sleeping five to six hours out of the 24 daily.

I know no explanation of this patient's extreme tolerance for hyoscine. She had never taken hyoscine or any drug of that class with her morphine. She had been treated about a year before she came to me for the morphine habit. She told me that the physician who treated her said he had given her very large doses of hyoscine but was never able to bring her under its influence sufficiently to keep her from suffering, and for that reason the treatment was abandoned and the habit resumed.

I have had one other case that showed as great or even greater tolerance for hyoscine than this one; but that patient had been taking an advertised "cure" for the morphine habit for several months, and I have reason to believe that one of its ingredients was hyoscine. Large doses of hyoscine had no perceptible effect on him, and after trying them until I was fully satisfied that he was a hyoscine habitué, a different line of treatment was adopted, to which he responded normally.

In the sixth case reported by Dr. Hare, he says that 10 days after the beginning of treatment "the patient, while still receiving these massive doses of hyoscine, began to pass from under their influence, her tongue was moist, her mind clear," etc. It is evident that in this case the morphine habit had been supplanted by the hyoscine habit. This patient was still receiving doses of this drug when the case was reported. From the course pursued in the first case reported by him, I presume that this drug is to be discontinued by gradual withdrawal. In this connection I wish to enter a protest against such a procedure, and to remind the profession that there is nothing in this condition or in the nature of this drug to warrant the belief that the method of gradual reduction would be more successful as a treatment for the hyoscine habit than it has been for the morphine habit, in which it has been proved to be a stupendous failure. If the example of Dr. Hare in giving hyoscine two weeks or longer until tolerance for it is established is followed, the hyoscine habit will soon be another curse with which unfortunate victims will have to contend. There is no reason whatever for the administration of hyoscine in a morphine case for a longer period than two to four days, so far as the cure of that habit is concerned. Forty-eight hours should be the extreme limit as a rule, and that is longer than is necessary in most cases.

In an article published in the last October number of the Therapeutic Gazette I contended for the following propositions:

That abstinence symptoms, or the various manifestations thus designated, which occur upon the withdrawal of morphine, are due mainly to auto-intoxication from effete material locked up in the system by the effects of morphine, and to the secondary effect of that drug; that when a primary step in the treatment is thorough elimination of both the stored-up drug and the effete material with which these patients are surcharged, the most distressing and dangerous symptoms met upon withdrawal are avoided; that if the system is thoroughly freed from effete material, and morphine discontinued, all distressing painful symptoms subside within three days—as soon as the secondary effects of morphine are exhausted—*without treatment of any kind;* and that the essential office of hyoscine in the treatment of this habit is to keep the patient from suffering *during that interval;* that as a rule all medication can and should be discontinued within four or five days.

Dr. Hare ignores these contentions altogether, and Dr. Lott takes a different position. He says: "In treating for opium or any of its preparations, there should be nothing given to cause the bowels to move, for as soon as the morphine is out of him, during the second day, a bilious diarrhea will set in that will worry the patient a good deal." Thus, he waits for the system, released from the benumbing influence of morphine, to awake to the presence of the large accumulation of excrementitious matter and set up a diarrhea to throw it off, and allows this to occur when the patient, recently deprived of the sustaining power of morphine, is least able to bear such a drain.

But let us see what are some of the other results these gentlemen get from the treatment as they give it, and how long they are about it.

Dr. Hare says of his first case: "In this particular case the large doses of hyoscine were continued for a period of over two weeks and then were gradually decreased. It is now several months since the treatment ceased," and "I have seen this patient's physician during the last few days, and he tells me that not only is the man not taking morphine, but that he seems to be improved in every way, and has gained 10 or 12 pounds in weight." An average patient, whose system is put in proper condition at the beginning of treatment, and to whom only what hyoscine and other medicine he needs is given, will gain flesh at the rate of one-half to one pound per day until his full normal weight has been reached, and his improvement in every other respect will be so marked that it will not be left to the physician merely to state that he "seems to be improved."

In Dr. Hare's last case he says: "Twelve days after treatment began she asked for solid food." A patient of this class, whose system has been properly cleansed of effete material and relieved from the effects of auto-intoxication at the beginning of treatment, will usually crave solid food on the fourth or fifth day thereafter, and by the end of the first week will have an appetite that would do credit to a field-hand.

Of his patient, at the end of the period during which he gives hyoscine, Dr. Lott says: "Thus far all is well; the patient has been relieved from the drug, but he is not cured; it will take a long time before his cure is completed, and often his courage and his fortitude will be taxed to the utmost. True, he has escaped from morphine without pain, but he will not be able to rebuild the shattered constitution without more or less suffering. The functions of the body so necessary to health have been impaired; appetite, digestion, assimilation, sleep, a proper equipoise of the nervous system are to be regained. Not only so, but often for the first week, or, for that matter, for the first month, there is pain in the back and knees, feet and arms, sometimes quite severe." What? Did you not say that the patient had escaped from morphine without pain? Is it possible that while he was thus escaping some other blighting disease fastened itself upon him and is causing all this suffering? Or can all this pain and discomfort be a necessary part of the reconstructive process that lies before him? Is the reconstructive process a painful one? Not so; but with all charity I must say that the marked discomfort of this patient is mainly due to the neglect by his physician of one of the fundamental doctrines of medical science; that is, that retained excrementitious matter greatly aggravates and intensifies any disease to which the human economy is liable, and that its removal is properly the first and often the most essential step in treatment.

The use of morphine interferes with the proper working of all the excretory glands, and causes prolonged retention of the products of waste, resulting in profound auto-intoxication. The effects of this are so manifold and far-reaching that it is almost beyond human ability to enumerate them. Suffice it to say that all the annoying and painful symptoms with which Dr. Lott says his patients have to contend are daily met with and well understood to be the effects of auto-intoxication. It is also axiomatical that if the system is not too profoundly impressed nature will finally come to the rescue, and set up a diarrhea or other discharge to relieve the victim of this poisonous matter. If nature is better prepared to do this unaided and alone than by the addition of purgatives, diuretics, diaphoretics, etc., skilfully administered, then indeed have the fathers of medicine striven in vain to establish our art. Yet notwithstanding the fundamental teachings, and notwithstanding that Dr. Lott recognizes the fact that the system of his patient is in a condition in which a diarrhea will soon be set up to clear it of offensive excreta, he advises that no purgative be given at the beginning of treatment, but waits to give nature a chance to do that work without assistance. This is certainly a strange doctrine, and yet here we have an eminent professor of materia medica indorsing it.

It does seem strange that in this age of the world it should be necessary for any one to insist that as a primary step in the treatment of any disease the system should be cleansed as fully as possible of all retained excreta and other noxious matter. The universally recognized value of purgatives depends upon the fact that with their aid the system can be more readily, perfectly and economically cleansed of retained excreta or other offensive matter than it can be by a diarrhea set up by the irritating action of these substances. Diarrhea, thus induced, often runs a protracted course, and if the purpose of nature is ultimately accomplished without artificial aid it is by the most profligate expenditure of the patient's strength and other resources. In Dr. Lott's cases, nothing so retards their recovery or shatters their constitutions as does the diarrhea.

In the old methods of treatment, in which withdrawal of the drug was attempted without preceding elimination, diarrhea was one of the most trying and difficult complications to meet, and that which most often caused a return to the opiate. Since this diarrhea can be prevented altogether by a well-directed eliminating course given at the beginning of treatment, and since this can be given without discomfort, and when the patient is still under the sustaining influence of morphine, why should it not be given? Not only does elimination prevent the diarrhea, but it gives many other advantages. For one thing, it shortens the time during which it is necessary to give hyoscine or any other medicines. The patient, freed from irritating excrementitious matter, is far more comfortable, and has no such array of painful symptoms to contend with as Dr. Lott describes.

In order to show the contrast between a case treated with thorough elimination as the primary step and those reported by these gentlemen, I will give the clinical notes of a case.

Dr. F. C., aged thirty-three years, weight 150 pounds, nervous temperament, began the use of morphine in 1898, and gradually increased the quantity to 10 grains a day. In August, 1899, cocaine was added, and at the time of beginning treatment he was taking about 10 grains of each daily, divided into 10 to 15 hypodermatic doses. He was rarely able to get to sleep before 2 A.M., because of the exciting effects of cocaine, which was used up to about 9 P.M. and then discontinued until morning. He came for treatment January 9, 1900.

January 9.—Gave a capsule containing two grains of calomel, two grains powdered extract cascara, one-eighth of a grain strychnia and one-fourth of a grain ipecac, at 4, 6, 8, and 10 P.M. The usual doses of morphine and cocaine were allowed until 9 P.M., and then discontinued. At this hour the patient received a Turkish bath.

January 10.—Had a very copious action from bowels at 5 A.M., and another at 6.15 A.M. At 7 A.M. gave three ounces of castor oil, and between that time and 10 A.M. had five free bilious actions from bowels. No nausea or other distress attended the action of bowels. 11.30 A.M.—Is suffering and wants morphine. 12 M.—Gave 1-200 grain hyoscine. 12.15 P.M.—Gave 1-200 grain hyoscine. 12.45 P.M.—Gave 1-150 grain hyoscine. Slept three and a half hours. 5.25 P.M.—Gave 1-150 grain hyoscine. Slept three hours, mind clear. 9.00 P.M.—Gave 1-150 grain hyoscine. Suffering. 9.20 P.M.—1-150 grain hyoscine. 9.40 P.M.—1-150 grain hyoscine. Slept three hours; on waking mind is still clear.

January 11.—1.15 A.M.—Gave 1-150 grain hyoscine. Suffering. 3.15 A.M.—Gave 1-150 grain hyoscine. More comfortable. 5.45 A.M.—Gave 1-150 grain hyoscine. Mind still clear. 6.20 A.M.—Gave 1-100 grain hyoscine. 8.40 A.M.—Gave 1-100 grain hyoscine. Comfortable. 10.40 A.M.—Gave 1-100 grain hyoscine. Mild delirium. 12.15 P.M.—Gave 1-150 grain hyoscine. 3.00 P.M.—Gave 1-150 grain hyoscine. Hyoscine discontinued. Delirium of mild type continued to 9 P.M., at which time the mind was about clear. Comfortable. 11.00 P.M.—Gave 20 grains of trional. Slept three hours.

January 12.—9 A.M.—Legs and back aching; temperature 99° F. Gave five grains each of quinine and antikamnia at 9 A.M., 12 M. and at 3 and 6 P.M., but no other medicine. 8.00 P.M.—Aching of legs and back relieved. Comfortable. 9.00 P.M.—Gave 20 grains of trional.

January 13.—9.00 A.M.—Slept some last night, and rested quietly during the remainder of night. Ate breakfast with relish.

January 14.—Spent a comfortable day and night without medicine.

January 18.—The patient has taken no medicine in last five days and nights; feels weak, but does not suffer in any way; has no desire for morphine or cocaine, but on the contrary feels that their effects would be decidedly unpleasant to him now; eats heartily, goes to bed early, sleeps soundly all night, and says he feels like a new man. Is supremely happy since he realizes that he is no longer a drug-slave. Placed in charge of wife and sent home.

January 25.—At this date the condition of the patient may be judged by what his wife wrote to me: "Doctor is doing nicely. If he improves in the next month as he has this week you will not know him. He sleeps well at night, gets up at 7 o'clock every morning, and seems perfectly comfortable. It seems so strange to see him up early every morning now, for when he was taking drugs he could hardly be gotten out of bed before noon. He is eating heartily, and everything seems to agree with him. His bowels have not given him any trouble at all. He says he has no desire for morphine or cocaine, and that he rarely thinks of them now. He left this morning for a week's hunt on the lakes."

January 30.—Patient visited me at my office. He has gained 15 pounds in weight, and looks like a different man. He feels a return of his old time energy, and is going to make up for lost time.

This case is fairly typical of a large percentage of those treated by the method I advocate, with the possible exception that this patient, being a morphine and cocaine habitué, regained his normal capacity for sleeping a little earlier than patients do who have not been taking cocaine. There is certainly no such protracted painful convalescence, as Dr. Lott says his patients have. He attributes these painful symptoms to the presence of morphine in the system, but in this he is in error. Morphine in the system is not "the malady," and is not so much to be contended with as the effete material which it imprisons therein. Another statement by Dr. Lott that should be taken with some degree of allowance is this: "Remember that hyoscine antidotes morphine and morphine antidotes hyoscine. If the patient gets too much of one, give the other." This statement is entirely too broad. It is well understood that hyoscine, and the entire belladonna series are physiologically antagonistic to morphine in a part of their range of action, but it is equally well established that in other respects they are synergistic. There is certainly no chemical antagonism between them, therefore to say that they antidote one another is misleading. They are both hypnotic, both anodyne, and both narcotic and in these particulars they are synergistic. It certainly would not have been admissible to give the patient I have reported first in this article morphine because she had too much hyoscine. She was already profoundly narcotized, and morphine would have intensified that narcosis. I have no doubt that many cases of morphine poisoning are lost because of the too free administration of belladonna with the idea that it is an antidote. It certainly does not deserve to be so classed, and neither does hyoscine. In some respects and to a limited degree they oppose each other, but that is as much as can be safely said.

In my article referred to above I said: "Hyoscine does not materially affect the vital functions, or leave after-effects on either the mind or body of the patient, therefore it should be given until its full physiological effects are manifested if necessary." But I also said: "The administration of this agent should not be left to a nurse, but the physician should remain with the patient in person. The dosage in one case is no index to what will be required in the next. Only by the physician being present and personally observing the effects of each dose can the proper dosage be ascertained and the patient be kept in a comfortable and safe condition." I still say that hyoscine can be safely administered until its full physiological effects are manifested; but there is a vast difference between the physiological or remedial effects of a drug and its toxic effects. The toxic effects of hyoscine are extremely dangerous. On account of the great difference in the susceptibility of different persons for this drug no fixed dosage can be stated in advance, and only by the physician remaining with the patient and watching the effects of each dose, at least until his tolerance or intolerance has been ascertained, can this drug be used with safety. This precaution should be exercised in every case, because some persons are so susceptible to hyoscine that it is a very delicate matter to develop its physiological effects on them without going beyond that point and getting its dangerous toxic effects. It cannot be administered in a routine manner with safety.

Another peculiarity of this drug, or of persons taking it, is that in some cases prolonged administration begets intolerance instead of tolerance. This is rare, but in several instances I have found that after the patient had been under the influence of hyoscine for two or three days, and after all the visible manifestations of the drug, except dilatation of the pupil had subsided, a very small dose, one-fourth to one-half the size of those given in the earlier part of the administration, was sufficient to fully reestablish the effects of the drug, and that the delirium induced by such a dose was much more violent and prolonged than at the beginning. In such cases the prolonged administration would be dangerous.

POLYHYDRAMNIOS: ITS DIFFERENTIAL DIAGNOSIS AND TREATMENT, WITH THE REPORT OF CASES.

BY EDWARD P. DAVIS, A.M., M.D.,
OF PHILADELPHIA;
PROFESSOR OF OBSTETRICS IN THE JEFFERSON MEDICAL COLLEGE; PROFESSOR OF OBSTETRICS AND DISEASES OF INFANCY IN THE PHILADELPHIA POLYCLINIC; VISITING OBSTETRICIAN TO THE JEFFERSON, PHILADELPHIA AND POLYCLINIC HOSPITALS, ETC.

Case I.—A multipara, much depressed in general health, with rapidly increasing distention of the abdomen, the cervix tightly closed, dilated by an elastic bag, the membranes ruptured artificially and compression made by a broad bandage held across the abdomen by assistants. Eleven quarts of amnotic fluid escaped. The fetus presented in a transverse position, and was delivered by podalic version. The placenta was removed, the uterus douched with antiseptic solution and tamponed. Abdominal compression was continued, the mother making a good recovery. The fetus had but little tissue in cord and brain; both were rudimentary in character. It was otherwise well-developed and was stillborn.

Case II.—A multipara, sent for removal of cystic tumor supposed to be ovarian. During previous pregnancies had been well; during present pregnancy had much nausea and rapidly increasing distention of the abdomen, beginning at the fifth month. Urine practically normal; blood showed slight anemia. On examination, abdomen greatly distended; no fetal parts nor heart-sounds could be found. Finger passed through the cervix detected small fetal head floating in fluid. Diagnosis of polyhydramnios was made, membranes were ruptured, and about two gallons of fluid allowed to escape. Labor followed with twins, one of which had normal chorion and amnion with sac unbroken, the other had polyhydramnios. The placenta was large and edematous, the veins of the cord of one twin greatly enlarged and tortuous, and the tissue of the placenta and cord granular, with areas of cystic degeneration. The mother recovered well.

Case III.—Primipara, previously well. During early pregnancy excessively frightened by lightning. Was at the end of ninth month. Came into tedious labor with excessive amniotic liquid. Male child, weighing five and a half pounds, delivered by forceps. It breathed feebly and lived 10 minutes. Posterior portion of vertebral column and lower cervical and upper dorsal region deficient in development; meningocele present. Placenta thicker and larger than normal; quantity of amniotic liquid not much in excess; the cord very long and spiral. The mother made a good recovery.

Case IV.—Primipara, white, aged eighteen years. Mother died in confinement, cause not stated. Pelvis narrowed at the lower portion, expanded at the brim symmetrically; urine normal; patient fairly well nourished, and suffered little during pregnancy. Complained of pain in the right upper portion of the abdomen, dyspnea and sleeplessness. On examination, abdominal distention marked; fetus could not be outlined, nor could fetal heart-sounds be distinctly heard. The patient's lower limbs were considerably swollen, her heart-action labored. She complained of indefinite pains for several days, when the os was found fully dilated. The patient was given tincture of nux vomica; the membranes were ruptured, and compression applied to the abdomen. When the membranes ruptured, the head immediately engaged, the child descended and was allowed to emerge from the body of the mother gradually.

The placenta was removed, the uterus douched and packed with gauze. The mother made an uninterrupted recovery. The fetus gasped but did not breathe; its heart-beat persisted for three-quarters of an hour in spite of respiratory failure. Upon autopsy, general dropsy was found, and in the abdomen and pericardium a large quantity of fluid. The lungs were edematous; the kidneys showed atrophy of the pyramids, and the liver was softened and enlarged. The cord was shorter than the average, the placenta boggy, light in color, large and friable. The decidua was roughened, like a fibrinous exudate.

Case V.—Multipara, with moderate quantity of fluid. Dilatation well advanced, but pains inefficient because of overdistention of the uterus. Made patient sit upon a bucket; punctured membranes, and allowed several quarts of fluid to escape. Gave quinine and ergot. The child was speedily delivered, but failed to nourish properly, and died in 10 days with symptoms of intestinal obstruction.

By polyhydramnios is meant more than two pints of amniotic liquid at full term. As much as seven gallons has been seen in the human species. Pathology of the condition not fully known. Many conditions accompany polyhydramnios. The placenta often large, dropsical and infiltrated; Jungbluth's vessels often enlarged; amnion and chorion may be thickened, with extensive fissures in the epithelial layer of the amnion and fatty degeneration of cells. By experiment, seven times more fluid passes through veins than through arteries of cord into the placenta. Any fetal condition causing venous engorgement tends to produce polyhydramnios. Irritating substances formed in lymphatics may cause this condition. It does not result from increased renal action in the fetal kidneys. Excessive secretion from the cerebrospinal canal of the fetus may contribute to polyhydramnios. This condition is normal at the fourth month, and its persistence results from failure in normal development. By cryoscopy further information regarding the osmotic properties of maternal and fetal blood and of the liquor amnii may increase our knowledge. Bacteriology gives no information upon the subject.

The diagnosis is made by first diagnosticating pregnancy, then by observing that in polyhydramnios we can usually obtain evidence of faint uterine contraction, and can often insert the finger through the cervix and detect a presenting part. Ectopic gestation must be kept in mind, as polyhydramnios may complicate ectopic pregnancy. In ovarian cyst the illness is longer, the swelling at first unilateral. The intermittent hardening of the tumor is absent, and the uterus can be found but little enlarged. In ascites the dulness changes when the position of the patient is altered.

When pregnancy is found a second diagnosis must be made to recognize or eliminate the presence of pregnancy and ovarian cyst, pregnancy and ascites, plural pregnancy, hydatid mole, a very large child, or a malformed fetus. In hydatid mole the pear-shaped uterus has little fluctuation, and there is repeated discharge of blood. In large or malformed fetus the heart can usually be heard, and palpation reveals the child. While twin-pregnancy can generally be recognized, it may be completely mistaken for polyhydramnios. In exceptional cases ovarian cyst complicating pregnancy may be difficult to diagnosticate, and exploratory incision may be necessary.

Attention is called to misleading phenomena—the absence of such tension upon the membranes as would be expected from the quantity of amniotic liquid, and also the absence of early shortening of the cervix.

Treatment by drugs is without value. When polyhydramnios is slight and not increasing, the patient's health remaining good, pregnancy should not be interrupted. When distention increases rapidly and the patient's health is impaired, under thorough antiseptic precautions the cervix should be dilated sufficiently to admit the finger. A pair of uterine dressing-forceps, closed, should be inserted, the membranes ruptured, the forceps opened, and a rent made sufficiently large to permit the introduction of the finger. Fluid should be allowed to escape very gradually until the presenting part descends firmly against the cervix. Firm pressure must be made over the abdomen by a many-tailed abdominal binder or broad bandage held by assistants. The patient must be watched, as labor is often precipitate and the fetus may assume unfavorable positions. Labor should not be hurried in the interests of the child, because the fetus is often deformed.

Polyhydramnios is dangerous to the mother from overdistention, relaxation, hemorrhage and increased danger of sepsis. The uterus must be completely emptied and made to contract. A hot intra-uterine douche of 1 per cent. lysol, tamponing with iodoform gauze, the hypodermatic use of strychnine and ergot and other stimulation are necessary.

Occasionally after abdominal section the excess of amniotic liquid has disappeared by absorption.

RECENT DISCOVERIES IN THE DOMAIN OF ETIOLOGY.*

BY D. H. BERGEY, M.D.,
OF PHILADELPHIA;
FIRST ASSISTANT, LABORATORY OF HYGIENE, UNIVERSITY OF PENNSYLVANIA

For a number of years past we have been accustomed to look to the science of bacteriology for advances in our knowledge of the etiology of disease. Since many of the specific diseases have been traced to bacterial origin we are constantly expecting new discoveries in this field, as there still remains a number of the more common specific diseases the etiology of which is undetermined. During the last few years there have been but few additions to our list of specific bacteria, notwithstanding the constantly increasing activity of bacteriologists. The lack of definite knowledge with regard to the etiology of yellow fever, typhus fever, syphilis, variola, varicella, rubeola, and possibly of scarlatina, as well as of certain other diseases, is not due to any want of attention on the part of bacteriologists, for current literature teems with reports of investigations in these particular fields. The results obtained in the study of some of these diseases are practically negative in character, in that they indicate that the bacteria encountered are either normal inhabitants of the body or merely accidental invaders that have no direct relation to the disease.

Recent studies upon yellow fever and variola in particular indicate that the explanation of this lack of progress in our knowledge of the etiology of disease is attributable to the fact that some, if not all, of the diseases enumerated are due to animal parasites, and that therefore the methods of the bacteriologist are inadequate for the discovery and study of the etiological factors of these diseases. The investigations that have been made indicate that the technic of parasitology is far more difficult than that of bacteriology in its present advanced stage of development. Perhaps one of the chief difficulties lies in the fact that so many of the investigators have not been trained zoologists, although a detailed knowledge if invertebrate zoology, especially of the Protozoa, appears essential to success in this line of research.

With the evolution of our knowledge of the etiology of malarial fevers, following the marvelous discovery and demonstration of Laveran in 1881, the possibility has suggested itself to many minds that at least some of the diseases, the etiology of which is as yet undetermined, may likewise be due to animal parasites. The investigations of Dr. Carlos Finlay of Havana, and those of Major Reed and his colleagues, upon the etiology of yellow fever are practically conclusive in demonstrating that yellow fever is due to an animal parasite which is transmitted in a manner somewhat similar to the transmission of malarial fevers, although the direct causative agent of the disease has not yet been discovered.

The bacteria encountered in cases of yellow fever may be classed as accidental invaders of the body, having no direct causative relation to the disease. The *Bacillus X*, discovered by Surgeon-General Sternberg in 1880, was found in only about 55 per cent. of the cases, and therefore could not be regarded as the etiologic factor in the disease. The *Bacillus icteroides*, discovered by Sanarelli, was found by that investigator to be present in less than 60 per cent. of cases and this fact at once led to doubt as to its direct causative relation to the disease.

The investigations of Major Reed and his colleagues show that yellow fever is not conveyed by formites, as was formerly held. These investigators were able to demonstrate that the disease is probably always conveyed by mosquitoes infected by sucking the blood of patients, and that these mosquitoes can convey the disease only when about twelve days have elapsed after they have become infected. This period of time is supposed to be necessary for the parasites to undergo a certain development in the body of the mosquito and pass from its digestive tract to the salivary glands.

Extensive bacteriological investigations upon the etiology of variola have demonstrated that the bacteria found in the lesions may be classed as merely accidental invaders of the body having no direct causative relation to the disease. When examined before the fifth or sixth day the contents of the variola pustules are usually found to be sterile. The bacteria found in the older lesoins are staphylococci, streptococci and organisms belonging in the group of pseudodiphtheria bacilli. These bacteria are constantly found on the skin and mucous surfaces of healthy persons, and therefore can have no causative relation to the disease.

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* Read before the Pennsylvania State Medical Society, September 17, 1902.

Van der Loeff, L. Pfeiffer, Guarneiri, Doehle, E. Pfeiffer, Wasielewski, Reed, Funck, Gorini, Ishigami and others have described peculiar glistening bodies in the contents of variola pustules, and in the blood of variola patients, which they regard as parasites. Van der Loeff, in 1886, was the first to regard these bodies as the etiological factors of the disease, and classed them with the *Rhizopoda.* In 1887 L. Pfeiffer made an independent discovery of the parasite which he called *Monocystis epithelialis* and classified it among the *Acystosporidia* of Labbé. In 1892 Guarnieri reported on his method of cultivating the parasite of vaccinia in the cornea of rabbits. He considered the organism of vaccinia as a modified form of the parasite of variola, and proposed the name *Cytoryctes variolæ, vel vaccinæ.* The names given to the parasite by L. Pfeiffer and Guarnieri give prominence to its peculiar affinity for epithelial structures. Ogata regarded it as a polycystic *Gregarine.* Funck gave it the name *Sporidium variolæ.* Ishigami also classes it among the *Sporozoa* and regards it as similar to *Microsporidium bombycis,* though he does not attempt to classify it definitely.

My own investigations upon variola and vaccinia have led me to the opinion that variola is caused by an animal parasite belonging in the class *Sporozoa,* and that vaccinia is due to a modified form of the same parasite. This opinion seems self-evident from the mere fact that vaccinia protects against variola. There are, however, other reasons for this opinion, as, for instance, the fact that it has been demonstrated that by passing the parasite of variola through several monkeys it can be transferred to heifers and finally to human beings, and then it gives rise to typical vaccine vesicles. The nature of the modification which the parasite undergoes in its passage through bovines has not yet been demonstrated. It may be merely an attenuation in virulence which persists through many generations, probably indefinitely, or it may be some modification in the mode of development, though no such modification has been discovered.

Considerable criticism has been made of the opinion that the peculiar bodies found in variola and vaccinia are animal parasites. The opinion of those who oppose the parasitic theory is that the bodies seen are merely degenerated nuclei of leucocytes and epithelial cells. It seems to me that the strongest arguments in favor of the parasitic nature of these bodies are the facts that they present ameboid movements at certain stages of their development, and that they form sporocysts as seen in the older lesions and in crusts, as well as in variolous material cultivated in collodion capsules placed in the peritoneal cavity of rabbits. These facts give very strong presumptive, if not positive, evidence that the parasite presents two modes of development—asexual and sexual—similar to the modes of development of other well-known *Sporozoa.*

The parasite of variola is probably transmitted through the air or by direct contact, as is the case with many bacterial diseases. There is no evidence that insects play any part in disseminating the disease, except that flies may carry the infectious agent on their bodies from association with cases of variola, and thus assist in its dissemination. In the same manner money and other articles may become the carriers of the organisms. From the fact that the parasite of variola has an especial affinity for epithelial structures it is probable that infection takes place by way of the mucous surfaces of the nose and throat.

One of the most interesting and important discoveries in recent years in the domain of etiology is that pertaining to the etiology of the so-called "spotted fever" of the Rocky Mountains by Drs. Wilson and Chowning (*Jour. Am. Med. Assoc.,* July 19, 1902). This disease is peculiar to circumscribed areas of Montana and Idaho, along the eastern foothills of the Bitter Root and the southern foothills of the Boise mountains.

Bacteriological examination of the blood and tissues of persons dying of the disease revealed only well-known species of bacteria normally present in the body. On the other hand, the blood was found to contain large numbers of a parasite somewhat resembling that found in Texas fever of cattle, although it is larger than that organism and possesses ameboid motion. The organism varies greatly in form, size and staining reaction at various stages of its development. The smallest forms are one to two microns in size, ovoidal in form, and possess no ameboid movement. Another phase of the parasite is usually ovoidal in form, from three to five microns in size, and possesses ameboid movement. In freshly drawn blood bodies are sometimes found that resemble diplococci which are 0.5 to one micron in size and are without movement. These forms are extracellular, and stain faintly with methylene blue.

The organism of "spotted fever" is a *hematozoon,* and is found in the red blood-cells in the circulating blood, but more plentifully in the blood-cells lying in the congested capillaries of the tissues. The fact that no pigment was found in the organism leads the discoverers to conclude that the parasite belongs in the class with the Texas fever organism, and not with the malarial group.

Wilson and Chowning believe that the parasite is conveyed to man by the bite of ticks, several species of which are found in the infected locality. Though no infected ticks have yet been encountered, there is strong presumptive evidence that they serve as the carriers of the parasite, from the fact that the disease prevails at the season of the year when the ticks are prevalent, that is, from March to July.

Inoculation experiments upon rabbits with the blood of a fatal case were successful, the parasites persisting in the blood of the rabbit for four weeks.

The discoveries made thus far lead us to hope that the etiology of the remaining specific diseases may be ascertained by research along similar lines. The nature and mode of dissemination of the exanthemata is in many respects similar to variola, and should lead to investigations from the view-point of animal parasitology. If these diseases are due to animal parasites, the problem of discovering and studying the etiological factors is a difficult one because of the minute size of the organisms.

MEDICAL PROGRESS.

HYGIENE.

Disinfection for Yellow Fever.—The theory that a certain mosquito, the stegomyia, is the sole means of transferring, or, more properly, infecting yellow fever is a recent product of medical science, and was hardly enunciated before it was conclusively proved. W. C. GORGAS (Lancet, September 6, 1902) summarizes the results in Havana during the year 1901 of disinfection for yellow fever under the hypothesis that the stegomyia mosquito is the only means of transferring the disease. Prior to making a crusade against the mosquito itself, the usual methods of quarantine and disinfection were carried out in the houses of the sick, in the most perfect way that knowledge and care and money could produce, as this work was carried on by the United States Government. Yet these plans, rigorously prosecuted, were insufficient, and the disease spread in spite of them. When the question of the mosquito and his destruction came up, the following points had to be covered: (1) To destroy all the stegomyia they could, so as to limit the number of insects capable of conveying disease; (2) to prevent the stegomyia they did not destroy from biting yellow-fever patients, for if that could be accomplished, disease could also be prevented; (3) to destroy all mosquitoes which might have or actually had bitten yellow-fever patients, and thus become infected, because if these were killed it is obvious that disease would be limited. With the object in view of reducing the number of mosquitoes, orders were issued, commanding all people within the city limits to keep receptacles containing water mosquito-proof. Similarly all bodies and stagnant collections of water were treated with oil, and every possible means taken to destroy the insect. To meet the second proposition—keeping the mosquitoes and the infected patient apart—all hospitals and dwellings with yellow-fever patients within them were thoroughly screened, and inspectors put on guard to see that the screens were not left open. To meet the third proposition—to kill infected mosquitoes within the hospitals and houses—at the time the work was begun pyrethrum powder, 150 pounds on the average for each case, was used, and in addition to it those methods of disinfection which had been carried out previous to the crusade against the insect. Mere figures in all statistics lie, notwithstanding the old adage to the contrary, because mere numerals give no adequate idea whatever of the surroundings and factors of the case, which never can be disregarded. So far as statistics are valuable, however, the results of this treatment in Havana for 1901 show 18 deaths from yellow fever, which is the lowest the city records show since 1856, prior to which no records whatever of such subjects are extant. The special significance of this remarkably low total is that the floating population of Havana, mainly of non-immunes, was no less, if it was not even greater, during 1901 than for the preceding ten years. The factors, therefore, which make Havana peculiarly the victim of yellow fever were not removed, while beyond all human doubt the causes of transferring the disease were very largely corrected.

MEDICINE.

Bronchopneumonia in Children.—Of the diseases which attack the lungs of infants bronchopneumonia is the most common and serious. The treatment of this disease is discussed by JOHN L. STEVENS (Lancet, September 20, 1902), as follows: Not the least important point in the treatment is the prophylaxis. It is to be remembered that every common cold or bronchial catarrh or gastro-intestinal disorder in a young infant may pass into this exceedingly serious and fatal disease. It is obvious then that everything should be done to prevent such an occurrence. No indisposition of the kind indicated in an infant should be regarded lightly, and the child should be carefully treated and not lost sight of till all symptoms of these initial disorders have passed away. In particular the mother should be warned of the danger of exposing the child to cold, and of the necessity of keeping it warmly but not heavily or tightly clad; and gastro-intestinal derangements should be carefully corrected by directions as to diet. In the presence of the acute disorder itself the most important point to bear in mind is the fact that we are dealing with an acute, generalized, inflammatory disease of the respiratory apparatus, the immediate tendency of which is to produce great exhaustion of the vital powers. The disease is essentially one of debility, and treatment should aim at maintaining nutrition and stimulating the failing heart. All measures tending to depress the child should be strictly avoided, and for this reason emetics are not to be used. Place the child in an airy, well-warmed room. If it can be easily arranged, let the air near his bed be moistened by the steam from a bronchitis-kettle. This will often have a marked effect in soothing the cough. Do not load the child with clothes, but keep him warm, and avoid compression of the chest and abdomen by flannel binders. Two or three linseed poultices in the course of the 24 hours, applied back and front, and not too hot, are often of service as mild counter-irritants. Feed the child with milk diluted or peptonized, and check diarrhea with subnitrate of bismuth, combined if necessary with one or two grains of Dover's powder. Alcoholic stimulants are almost always necessary, but they should be strictly supervised by the medical practitioner, ordered by him as occasion demands, and prescribed as Sturges recommends—in minims, not in drams. A mixture containing from half a grain to a grain of carbonate of ammonia and two minims of tincture of digitalis in each dose, made up with sirup, may be given every three or four hours. The child should be constantly watched by a competent nurse, and should be occasionally held up to relieve breathing.

Diagnosis of Hour-Glass Stomach.—The condition of hour-glass stomach, as it follows carcinoma, perigastric adhesions, or ulcer is undoubtedly very difficult of diagnosis. The most prominent symptom, according to J. DECKER (Münch. med. Woch., September 16, 1902) is an exceedingly severe gastric pain, differing from that of an ulcer in that it is of much longer duration and more a feeling of tension than a cramp. It may persist for half an hour after the vomiting, and is relieved after some time with rest and fluid diet, though it returns at once when the patients get up and take more solid food. The vomiting is generally in small portions, and varies in time of appearance with the seat of stricture; if in the middle of the stomach, generally within two to three hours. If by these signs the condition is suspected, it can be rendered more positive by washing out the stomach, for the water will return clear at first, and then suddenly with particles of food. It may also be impossible to remove the first portions of water, since these disappear in the more distal portion of the sac. On inflating the stomach with air, the constriction may be evident, and the esophageal portion swells up first. Gastrodiaphany may also aid, in that it permits a shadow to appear at the stenosis. Finally pressure on the inflated stomach may give rise to a sound due to the rush of air from one half of the stomach to the other. The patients are generally exceedingly nervous owing to their chronic state of suffering, and their condition is frequently treated as nervous dyspepsia before recognized.

Early Diagnosis of Typhoid.—The blood has been systematically examined by H. Schottmuller (Münch. med. Woch., September 23, 1902) for typhoid bacilli, and positive findings have been obtained in 84 per cent. The technic is very simple. A rubber bandage is rolled around the arm, and then about 20 c.c. removed from the veins at the elbow with a sterilized Luer syringe after the parts have been carefully cleansed with ether. The blood is then passed into several tubes of liquefied agar kept at 45° C., so that to every six cubic cm. of the medium there are two to three of blood. After shaking, the mixture is then plated and kept at 37° C. The typhoid colonies can be recognized by their dark greenish-black color in the depths and dark grayish hue on the surface. If on examinaton they are found to contain motile bacilli, the diagnosis is positive without further examination, since no other germs of this character were ever found. In children the results were less frequently positive, which is in accordance with the milder course generally observed. It is of great significance for the early diagnosis that the bacilli were obtained from cases that presented themselves for treatment as early as from the second to the fifth day of the disease, and also during the first 24 hours of a relapse after an afebrile interval of two to three weeks. Success was less frequent during the amphibolic stage, and in those cases where the temperature-curve was chiefly remittent or intermittent. An interesting observation is the fact that the blood was frequently found to contain bacteria in the ephemeral rises of temperature up to 104° F. and higher. A proof of the presence in the blood of antityphoidal bodies is to be found in the much slower development of the colonies if the blood is taken late in the disease. The shortest time in which colonies can be identified after plating is 20 hours; generally, however, it takes two or three days. From a prognostic view it may be said that few colonies during the acme suggest a mild course, and vice versa. It is proper to regard each case of typhoid as a specific form of bacteremia, and it is probable that the bacilli reach the blood through the inflamed mesenteric glands. It is even possible that the ulcers in the intestines are the result of metastatic infection.

Glycosuria and Tabes.—The relation between glycosuria and tabes is a close one, since in diabetes secondary nervous disturbances may occur, localizing themselves in the posterior columns, and since in tabes there may be changes in the fourth ventricle leading to an excretion of glucose. That it may be difficult at times to decide which is the primary condition is clear from the case related by E. Meyer (Münch. med. Woch., September 16, 1902), where a positive Romberg, sluggish pupils and some sensory disturbances were present, and where the urine contained from three to five per cent. sugar. Since, however, an antidiabetic diet improved the condition but little, and since the administration of pure glucose was not followed by any increased excretion, it was decided that the tabes was primary and was accompanied by an affection of the nuclei at the floor of the fourth ventricle, which control sugar metabolism.

Anemia Due to Small Hemorrhages.—In certain instances the daily loss of even small amounts of blood may produce very severe anemias. J. B. Herrick (Jour. Am. Med. Assoc., September 27, 1902) has found that bleeding hemorrhoids may often cause this condition, and that recovery is almost certain after the proper remedial measures have been undertaken. He reports five cases which exemplified this condition, the anemia being of the pernicious variety, and recommends that when a blood examination shows a chlorotic or secondary type immediate operative measures for checking the hemorrhage should be instituted.

Alimentary Glycosuria and Levulosuria in Hepatic Diseases.—After a careful review of the literature bearing upon alimentary glycosuria, L. Ferrannini (Rif. Med., September 6, 1902) calls attention to the fact, established by Minkowski, that after ablation of the pancreas the liver no longer has the power to convert glucose into glycogen, while the transformation of levulose is accomplished without difficulty. Levulose, thus transformed, is stored up in the liver and reaches the circulation only in small quantities. Glucose, on the other hand, remains unchanged, the greater part passing into the circulation and thence to the urine. Minkowski found in the livers of dogs affected with pancreatic diabetes but a small trace of glycogen after administration of glucose, while ingestion of levulose by dogs so affected caused the appearance in the liver of glycogen in considerable quantities. Ferrannini therefore holds that in hepatic diseases induction of alimentary glycosuria with levulose is of greater diagnostic import than the production of that condition with glucose. The comparative results of administration of both substances by the author in 16 cases affected with various abnormalities of the liver seem to indicate that levulosuria is indeed a more reliable index of insufficience of the glycogenetic function of that organ than glycosuria.

PEDIATRICS.

Split Proteid in Infant-Feeding.—So little is known either here or abroad of the physiologic difference between the proteids of cow's and of human milk that it is a great advance to be able to approximate the proportion of whey proteid to caseinogen in preparing artificial foods. Dr. Thomas M. Rotch of Harvard, in an address before the British Medical Association (Br. Med. Jour., September 6, 1902), said that this use of the split proteids, which had been introduced largely through the experiments of Drs. White and Ladd, was probably the most important step in advance which had been taken in recent times. Their conclusions were as follows: (1) By the use of whey as a diluent of creams of various strengths cow's milk can be modified so that its proportions of caseinogen and whey proteids closely correspond to those in human milk; (2) the whey must not be heated above 69.3° C. or its proteids coagulate: 65.5° C. destroys the rennin enzyme; (3) the emulsions of fat in whey, barley-water, gravity cream and centrifugal cream mixtures were the same, and though the combination of heat and transportation may destroy the emulsion in any modified milk, this may surely be prevented by keeping the milk cool during delivery; (4) whey-cream mixtures yield a much finer, less bulky and more digestible coagulum than plain modified mixtures with the same total proteids. It is clear that the use of barley-water, which gives the next finer coagulum, is not indicated. The tenacity of the whey coagulum is not influenced by the proportion of fat present, and whey, while not so important in its mechanical action in affecting the coagulum as the cereal diluents, still had a pronounced power in that direction. In very young infants the total proteid should be about 0.75. Of this 0.50 should be whey albumin and 0.25 caseinogen. When the infant has reached an age where it requires a higher total proteid than 1.75, on account of our lack of chemical knowledge we must begin to give whole proteid.

Pertussis and Scillitic Oxymel.—About 57 observations have been collected by Boulade in the Children's Hospital of Paris, and made the topic of an inaugural essay by J. COMBY (Sem. méd., September 24, 1902), concerning the use of scillitic oxymel in the treatment of whooping-cough. This medicine is prescribed in its pure condition, as originally suggested by Netter of Nancy in 1886, in a dose of two after-dinner coffee spoonfuls for each year of the child's age, and is administered preferably between five and six o'clock in the afternoon. He reports that it has never failed to decrease the number and intensity of the attacks, and to give the child comparatively quiet nights. Unlike belladonna and atropine, its usefulness continues throughout the course of the disease, and appears to exercise a direct influence upon the evolution. Moreover, the medicine is ordinarily taken well by the little patients and has the advantage that it can be borne perfectly well by the average city patient.

Hepatic Cirrhosis in Childhood.—In commenting on the various forms of this disease found in infancy and childhood J. L. MORSE (Bost. Med. and Surg. Jour., September 11, 1902) advances the following explanation of cirrhosis found in connection with congenital obstruction of the bile-ducts: "Irritant substances may pass through the placenta to the fetus, going directly to the liver, or reaching it indirectly after passing through the general circulation. The cholangitis then descends to the larger ducts. Stenosis and obliteration readily follow, because of the extremely small size of their lumen at this time. The conditions for a mixed cirrhosis are thus produced." Additional points in favor of primary cirrhosis are: The constant occurrence of cirrhosis in obstruction of the bile-ducts in infants, compared with its rarity after obstruction of the larger ducts in adults; the large size of the liver, which is usually small when due to obstruction in later life, and the enlargement of the spleen, which does not occur in uncomplicated biliary obstruction.

The Production of Ferrated Milk.—It has been discovered as the result of numerous experiments on animals performed by L. GIORDANI (Rev. mens. Mal. l'Enf., September, 1902) that the subcutaneous administration of iron in increasing doses is followed by the appearance of this element in the animal's milk, in quantities from two to five or more times as great as when iron is administered per os. This drug appears in the milk in organic combination, in which form it is easily absorbed and assimilated by the infant. The modifications in the various constituents of the milk provoked by the injection of the citrate of iron are quite negligible. The quantity of milk is slightly diminished. An animal can tolerate large doses of the medicament provided these are attained gradually and with intervals of rest. No inconvenient local reaction is produced. The author concludes from his researches that one may hope to obtain a ferruginous milk of peculiar value in infantile therapy.

BACTERIOLOGY.

Tubercle Bacilli in Urine.—In view of the uncertainty of finding the tubercle bacilli in specimens of urine naturally voided, the following method is advanced by J. P. BRYSON (Jour. Cut. and G.-U. Dis., September, 1902). He had observed accidentally that the urine drawn by catheter after voluntary micturition contained a relatively greater number of bacteria. He made a series of comparisons in well-marked cases of tubercular cystitis, pyelonephritis, etc., and in each case found numerical disproportion between the numbers of the bacilli in the tidal and residual urines, the greatest number being always seen in the urine drawn with the catheter.

Germ of Smallpox.—An interesting account of the work done to discover the cause of smallpox is given by W. DOMBROWSKI (Zeitsch. klin. Med., VOL. 46, Nos. 1 to 4). Certain authors have described bacteria, but the majority mention cocci similar to the staphylococcus as being contained in the pustules, none having recorded any successful animal experiments. Hopes of finding specific bacteria became less and less. On the other hand, the proof that chemical substances were not the inciters was soon forthcoming, and the mystery which overhung the whole subject was not cleared until certain investigators began to describe peculiar bodies, apparently belonging to the protozoa, as invariably present in the lesions. These observations the author can verify from his own studies. If, after previous sterilization of the skin, a vesicle be punctured and a drop of the clear fluid be examined with the oil-immersion, a large number of dark, rounded or more oblong bodies, surrounded by a lighter area, will be found to crowd the field. They are found to be actively motile, and two different excursions can be discerned, one pendular and rapidly executed, and another slower and progressive in character. On the second day, besides these bodies, others will be present from two to three times as large, transparent and with indistinct contours. In the center of these hyalin masses there are four dark granules which constantly change their position. During this period leucocytes are already present, chiefly of the polynuclear variety, and their number increases more rapidly in the milder cases. By the time the exudate has assumed the characters of pus, fewer of the above described bodies are found, but instead there are larger, regularly formed spheres of yellowish color and white areola, situated within the protoplasm of the leucocytes, or free, with or without motion. Very often diplococci are also present or bodies possessing the general shape of yeast. Reproduction probably goes on solely by budding. The organisms of the abscesses do not differ in any way from those of the pustules, except that the spheres are more prominent. Anilin dyes, such as Löffler's or Ehrlich's solutions, do not stain the bodies, and a number of empty spaces are seen in their place, but retaining the general contours. In fresh blood-preparations the smaller structures of the pustules can invariably be seen either free or within the red or white blood-cells. By inoculating culture media with the contents of variola pustules no known variety of bacteria can be grown, so that there is no question that the suppuration is due to the specific organisms and not to secondary infection. These specific bodies, while they do not grow, retain their vitality for months on agar, the free bodies becoming less and the medium-sized yellow spherules increasing in number. Blood smeared on agar loses its red color, and the surface becomes white, broader and thinner, and contains the same structures. It is most likely that they are all different phases in the development of the same parasite, whose exact nature is not clear, but which is probably best classified among the blastomyces. Animal experiments were not made by the author.

PATHOLOGY.

The Influence of the Extirpation of One Kidney On the Organism.—In an experimental work Ssokoleff (Bolnit. Gaz. Bot., Nos. 18, 19 and 20, 1902) studied the influence of the extirpation of one kidney on the muscles, blood-vessels and nerve-centers of the heart; also on the other kidney and the liver. The influence, according to his findings, of such a nephrectomy is identical with the influence of a ligature of one ureter or one renal artery. In all these conditions there takes place a hypertrophy of the heart, preceded by a parenchymatous nephritis, which in its further development changes into a glomerulonephritis. As a result of his work the author also comes to the conclusion that the hypertrophy of the heart accompanying chronic Bright's disease is not due to any mechanical influence, but is most probably a result of some secondary chemical influence.

On the Etiology of Noma.—As the bacteriologiical examination of the patients of Dr. Korsch (Bolnit. Gaz. Bot., No. 24, 1902) showed the presence, among others, of the diphtheria bacilli, he added to the usual course of treatment an injection of diphtheria antitoxin, after which the defect began to cover itself with healthy granulations, and the patient's general condition to improve. Though the diphtheria bacillus may be only a secondary factor in the etiology of noma, still the author thinks that it is certainly not an indifferent agent, and consequently, whenever it is found, antitoxin should be added to the rest of the treatment.

Change of the Hemolytic Power of Blood-Serum.—Glinchikoff (Bolnit. Gaz. Bot., No. 30 and 31, 1902) in the examination of the strength of the hemolytis of dogs' blood-serum against rabbits' erythrocites, found that the process of digestion increases the hemolytic power of the serum, and that the increase reaches its maximum seven hours after the meal. Further he found that, of the different foods, fat increases the hemolytic power most, meat does it least, and bread and milk occupy in regards to the hemolytic power a position between fat and meat.

Diphtheria, Tetanus Toxin and Hemoglobin.—Dr. Kukharshevsky (Russky Vratch, No. 29, 1902) found that after a subcutaneous injection of diphtheria toxin in a rabbit the number of the erythrocytes becomes diminished, while the number of the white corpuscles is increased. The specific gravity is increased, and the quantity of hemoglobin diminished. The result of injection of tetanus toxin is the same, with the exception of the specific gravity, which after the injection of tetanus toxin becomes diminished.

New Blood Reagent.—The old method of examining spots, etc., for blood by means of sodium chloride and glacial acetic acid has been modified by C. Strzyzowski (Ther. Monatsch., September, 1902), who uses the following formula: Glacial acetic acid, water and alcohol, each one c.c.; hydriodic acid, three to five drops. This mixture does not keep well and should be mixed ready for use. The substance to be examined is placed on a slide, a sufficient amount of reagent added to cover it, and the mixture then boiled for 10 seconds. The crystals thus obtained are larger and more perfect than by any other method. If the suspicious substance is fluid, it is best to evaporate it to dryness on a slide.

Fibroma of the Ovary.—From a study of the recorded cases of this condition, it is possible to recognize three ways in which a new growth of a fibromatous or fibromyomatous character may involve the ovary, says John S. Fairbairn (Jour. Obstet. and Gyn. Brit. Emp., August, 1902). (1) The whole ovary may be converted into a hard tumor, maintaining to some degree its original shape, but bearing no recognizable portion of the original structure. This is an unusual occurrence. Attention may be directed to the fact that this complete fibrous transformation does not depend upon the size to which the tumor has attained. It takes place in small as well as large tumors, and does not depend upon the growths having reached a size sufficient to destroy the ovary. It is difficult to understand why the pathologic change should affect the whole stroma from the first, as this is more like an inflammatory fibrotic change than a new growth. (2) The growth forms a hard tumor within the ovary, which it spreads over its outer surface, so that it remains more or less encapsulated within the organ. The amount of ovarian tissue remaining appears to depend rather upon the position of the growth in the ovary than on the size the growth has attained. With the increase in size of the tumor the capsule tends to become more thinned out and less separable, so that the encapsulation may be recognizable only near the attachment of the ovary. Virchow has stated that the growth often originates in the outer end of the ovary. (3) The new growth forms a pedunculated tumor attached by a pedicle to the ovary. Some of these growths may be from the ovarian ligament. Keiffer suggests that fibroma of the ovary may follow part of their development in the center of the gland, and then be extended towards the periphery, and become pedunculated like subperitoneal fibroids of the uterus. The age limit is a wide one, varying between twenty-seven and sixty-seven. The general health is not usually affected. Trouble with micturition may occur due to pressure upon the bladder, if the tumor be large. The same condition may cause pain. The menstrual function may be interfered with by prolongation of the period or increase in the flow. This is not the rule.

Researches on Cancer.—As the result of investigations extending over a period of several years, E. v. Leyden and F. Blumenthal have published a preliminary communication (Deut. med. Woch., September 4, 1902). The transmission of carcinoma from man to the lower animals was unsuccessful, both rats and mice being fed with the infected tissue for months without any results. They did, however, succeed in transmitting cancer from one dog to another. Curative attempts in dogs were also made by injecting the serum of rabbits which had been subjected to subcutaneous injections of liquefied cancer-tissue for several weeks. A very favorable result was secured in all cases, the tumor undergoing a liquefaction and a reduction in size. A freshly extirpated carcinoma from a dog was used, by means of crushing and extraction, to prepare a serum which, when injected into another carcinomatous dog, produced the same favorable effect. In like manner trials were made in human subjects, all inoperable cases. No bad after-effects were noted. In two cases which ended in death, having been far advanced in the disease, no change was noted in the tumor itself, but at autopsy no metastatic growths were found, and neighboring lymph-nodes, which had been palpable and probably infiltrated, had disappeared. In a third case, accompanied by extreme pain and cachexia, a marked improvement in the general condition was noted, although no favorable change could be seen in the tumor.

Formation of Toxoids in Tetanus Cultures.—Through recent experiments, A. Bonome (Rif. Med., August 30, 1902) discovered that the soluble products of the bacterium coli, that is to say, the coli toxins, possessed the power to retard the development of the tetanus bacillus when mixed with the culture medium for the bacillus in the proportion of one-fourth of the former's volume; and further, that the quantity and activity of tetanus toxin developed in such a medium was lessened. This diminution was not due to attentuation of the bacilli, as proven by the toxic effect of their inoculation into animals after having been for some time subjected to the influence of such a culture-medium; but rather, in the author's opinion, to a modification of the tetanus toxin by the nutrient medium through which the toxic element was in great part destroyed. Experiments upon guinea-pigs showed, however, that that part of the toxin which excites "immunizing reaction" in living protoplasm was unchanged by the influence of the coli toxin; for injections of the filtrates of cultures which had been subjected to its action, as before described, failed to induce tetanic symptoms, and produced a certain degree of immunity to injections with virulent tetanus cultures. This immunity is believed by the author to be due to the deelopmevnt of tetanus toxoids derived from the splitting up of the tetanus toxin in the presence of the bacterium coli, the toxoid possessing the power to excite formation of tetanus antitoxin in the body of the living animal. It is hoped that the knowledge of the production of tetanus toxoids in this manner may find a practical application in the immunization of animals, especially those in general use for the production of antitetanic serum, and which, from their great susceptibility to the tetanus toxin, frequently succumb during the period of immunization.

Tetanus and Vaccination.—During the year 1901 an unusual number of cases of smallpox developed in the United States, and in that period a much greater number of people were vaccinated than in any previous year. Joseph McFarland of Philadelphia (Lancet, September 13, 1902), after a prolonged study of cases from all over the world, reports that the infections have been confined almost exclusively to the United States east of the Mississippi and to eastern Canada. (1) Tetanus is not a frequent complication of vaccination; (2) the number of cases observed during 1901 was out of all proportion to what had been seen before; (3) the cases have nothing whatever to do with atmospheric or telluric conditions; (4) a small number occurred after the use of various viruses; (5) an overwhelming number occurred after the use of a certain virus; (6) the tetanus organism is in the virus in small numbers, being derived from the manure and hay; (7) occasionally through great carelessness or accident the number of bacilli becomes greater than usual and may lead to the epidemic occurrence of tetanus; (8) the cure for the danger lies in greater care during the preparation of the virus.

SURGERY.

The Iliopsoas Bursa.—Attention is called to the surgical importance of this bursa and to the treatment of its inflammatory conditions by F. B. Lund (Bost. Med. and Surg. Jour., September 25, 1902). This bursa lies beneath the musculotendinous portion of the iliopsoas muscle and in front of the capsule of the hip-joint. Its position and frequent connection with the hip-joint may cause its involvement in osteo-arthritis, gonorrheal infection, or suppurative arthritis of the joint, and the symptoms due to the disease of the bursa may dominate the clinical picture. The writer has made a series of dissections to determine the size and position of the bursa, and in 18 subjects found a free communication with the hip-joint in three cases, and an extension over the pelvic brim in nine cases. He also reports three cases of suppuration in this bursa which came to operation. In gonorrheal cases incision of the bursa affords an easy method for reaching and draining the joint, and in osteo-arthritis relief of pain is afforded by incision of the bursa. The author finds that the best incision is one just below Poupart's ligament between the anterior crural nerve and the femoral artery. Iliopsoas bursitis should be more often considered in the differential diagnosis of obscure tumors in the groin, especially in cases where the hip-joint is known to be diseased and where a tumor suddenly appears in front of the joint, which is painful and tender, and affords a sensation of deep fluctuation.

Operative Treatment of Varicose Veins.—Since some doubt still exists as the value of the various operative measures employed in the treatment of varix, J. B. Blake (Bost. Med. and Surg. Jour., September 25, 1902) thinks that it is desirable in the future to settle the following points: (1) To determine how often the deep veins are actually and clinically affected, in connection with superficial varicosities, and how it is possible to determine the condition of these deep veins before operation; (2) to subject a large number of cases of all degrees of varicosity and its complications to the same method of treatment, and to trace the results carefully for one or two years.

Value of Sublamin.—Concerning sublamin, an organic derivative of mercury, recommended in the place of sublimate for hand-disinfection, M. Blumberg (Münch. med. Woch., September 16, 1902) says: (1) It equals in strength the best known disinfectant, sublimate. (2) It possesses the advantage over sublimate that it does not irritate the skin in high concentrations, and hence can be readily employed where the hands have come in contact with highly virulent matter. (3) There is a much greater tendency to penetrate and to act in the depths of the tissue. (4) Owing to rapid and easy solubility in water, strong solutions can easily and quickly be made, even if the salt is compressed into tablets.

GENITO-URINARY AND SKIN.

Electrolysis and Xanthelasma.—Incision of xanthelasma is often accepted with difficulty by the patient through fear of scars which may be more disfiguring than the disease itself. It is therefore well to draw attention to the good effects recently obtained by L. Leplat of Liège and M. Pamsier of Avignon (Sem. méd., September 24, 1902). These men have employed electrolysis at irregular intervals during perhaps the last 15 years, and at the present time are using it systematically. They insert a platinum needle, preferably attached to the negative pole, while the positive pole has an ordinary sponge electrode, held upon the cheek of the patient. Leplat uses currents between two and four milliampères in strength. Pamsier, however, does not hesitate to use stronger currents, from six to ten milliampères in extensive cases according to the degree of the disease. It is often necessary to puncture the tumor many times with the same needle, which is the usage of Leplat, or, according to Pamsier, many needles, attached to one electric pole, may be driven into the tumor at one sitting. It is advisable to pass the needles very obliquely through the skin. In order to check the pain caused by the passage of the current it is well to use cocaine. On the other hand, it must not be forgotten that these injections promote edema of the eyelid, and occasionally ecchymosis. Preceding the electrolysis it is well to rub the eyelid with an ointment consisting of three drams of menthol and three of hydrate of chloral in six of lanolin.

Vesical Calculus.—A unique case is reported by D. C. Huffman and F. W. Roush (Jour. Am. Med. Assoc., September 27, 1902). The patient had been wounded during the Civil War, a ball entering the upper part of the thigh near the groin. The wound healed and the ball was never found. Forty years later vesical symptoms appeared and a diagnosis of calculus was made. Suprapubic lithotomy was performed, and a calculus weighing 580 grains and encysted in a cul-de-sac near the neck of the bladder was removed. Its nucleus was a flattened lead musket-ball. This probably did not penetrate into the cavity of the bladder until the beginning of the appearance of the vesical symptoms, and got through the wall by the slow process of ulcerative absorption.

Faradization and Pruriginous Dermatoses.—The use of the faradic current as a means of calming pruritus has recently been recommended by Bouveyron of Lyons (Sem. méd., No. 25, 1902). He finds that its results are similar to those exercised by static electricity and that it has the advantage of not necessitating the installation of a complicated and costly apparatus. The small induction coil which is in common and habitual use in medical practice, and the electrodes which accompany it, are usually sufficient. This author has tried the effect of the faradic current in all kinds of itching skin diseases, such as eczema, lichen, pityriasis, rosacea, morphea, etc. His results have been practically the same in all. This treatment, however, has failed in two cases of senile pruritus. Not only does the current usually control the itching, but also exercises a curative effect upon the disease, and has not been known in his hands to give any harmful result. The positive pole appears to produce less calming effect than the negative.

Simple Ulcer of the Bladder Combined with Round Ulcer of the Stomach.—Dr. Kavetsky (Prac. Vratch, No. 24, 1902) reports an autopsy with this rather rare finding: In May, 1899, the patient had a urethrorrhagia lasting for six weeks, for which the uterus was curetted. After a while she began to suffer again from urethrorrhagia, and in October she again entered the hospital, had there an attack of relapsing fever, recovered from it, and in December was again curetted. On the evening of the operation the temperature rose to 102.4° F., and continued between 99° and 101.3° F. for 12 days, when the patient died. At the autopsy there was found in the peritoneal cavity some 500 c.c. of serous fluid, adhesions all around the different organs of the peritoneal cavity, and a simple round ulcer on the small curvature of the stomach. The bladder had adhered to the pelvic peritoneum, and on its posterior wall there was a perforated ulcer of 4 to 5 mm. in diameter. This opening led into a pus cavity, which lay between the uterus and the bladder. The author thinks that both ulcers are due to circulatory deficiency caused possibly by the relapsing fever. There was no indication in the clinical history of any trouble in the stomach or bladder.

PHYSIOLOGY.

Effect of Fatigue upon the Kidneys and Liver.—The peculiar substances circulating in the fatigued body, according to G. Guerrini (Arch. Ital. Biol., vol. xxxvii, fasc. II, 1902), induce certain well-defined cellular changes. The reaction of the cells of the kidneys and liver to such substances, as determined by recent experimental research conducted by the author, is given as follows: In the kidneys, the greatest changes were seen in the cells of the convoluted tubules and in the ascending limb of Henle's loop; the Malpighian corpuscles and the straight tubules being almost normal in appearance. The protoplasm of the cells lining the convoluted tubules was found to be homogeneous and granular; and the cell-body was in some instances enlarged to such an extent that the lumen of the tubule was occluded thereby. The line of demarcation between individual cells was obscured and sometimes obliterated. In the severest fatigue vacuolization of the protoplasm was seen, and a certain number of cells showed extreme degeneration, resulting in rupture of the cell-body, the lumen of the tubule being filled with detritus composed of cell-fragments with here and there a normal nucleus or small granular masses which stained like nuclei. Similar changes were present in the liver-cells though not to so great a degree, the distinctive feature in the cells of this organ being the large quantity of bile-pigment contained in them.

THERAPEUTICS.

Action of Phosphorus on Blood of Birds.—The administration of small, non-fatal doses of phosphorus to chickens, according to J. Vogel (Arch. internat. Phar. et Thér., vol. x, fasc. III, IV) causes a diminution in the number of red cells, noticeable by the second day and reaching its acme from the third to sixth when the counts show half or less of the normal. The hemoglobin is reduced proportionally, and no free pigment is found in the serum or the excretions, though they often contain biliary coloring matter. If the phosphorus is stopped normal figures will again be obtained in about eight days. Since the total amount of blood suffers no change, the reduction cannot depend upon a dilution, but a destruction of red cells must take place.

Treatment of Diabetes.—The proper dieting is of the greatest importance in the treatment of diabetes, according to H. Eichhorst (Ther. Monatsh., September, 1902), and he even goes so far as to state that no drugs have much influence on the process. The good effects derived from a stay at some watering-place again must be ascribed to the diet, which should consist exclusively of fat and proteid. In saccharin we possess an excellent substitute for sugar, and one which can be taken for years with impunity. Dulcin or sucrol is not so sweet, and is more liable to have disagreeable after-effects. Despite the many preparations on the market, the proper substitutes for bread have not yet been found, for those which have been tried either become disagreeable to the taste after a while, or they are too rich in carbohydrates. If the condition permits the use of any bread at all, Graham bread is to be preferred. One should never forget that the diabetic needs more actual food than the well, since he loses so much, and underfeeding should be avoided. As with morphine, it is generally better and more agreeable for the patient to withdraw the forbidden articles of food slowly than rapidly. The scales should be used freely to control the body-weight. If the urine has been free from sugar for several weeks small quantities, say 25 grams, of bread daily are permitted, and the amount is increased daily 10 grams till 70 to 100 are reached, which is sufficient for most. As soon as traces of sugar again appear the bread must be re reduced in some, and in others entirely withdrawn. The author has never seen any good from gland preparations.

Value of Yeast of Commerce.—That yeast possesses some value in diseases of the skin, notably in furunculosis, is beyond question. The many negative reports are due to the inefficient preparations employed. It thus becomes necessary carefully to test all yeast, and R. Rapp (Münch. med. Woch., September 9, 1902) has investigated five widely employed preparations for the amount of water, fermentative, digestive and bactericidal powers and number of bacteria contained. The astonishing results obtained were that most samples were inefficient for therapeutic purposes, and only one, zymin, prepared by dehydrating in aetone, really comes up to the standard.

Atropine in Ileus.—For cases of intestinal obstruction, P. Ostermaier (Münich. med. Woch., September 9, 1902) recommends that small doses of atropine be injected in half-hourly doses until 10 mg. are used. If the desired result has not taken place six to eight hours after the first injection the only hope lies in an operation. How the atropine acts on peristalsis is not settled, but it is probable that it stimulates it and diminishes the caliber of the mesenteric vessels. At the same time, however, excessive peristalsis or spastic conditions of localized intestinal areas can be relieved. The circulation is materially improved, and the patients generally rapidly come out of their collapse under the atropine treatment, and there is no obscuring of symptoms as is seen with opium.

Case of Formalin-Poisoning.—A. Gerlach (Münch. med. Woch., September 9, 1902) was suddenly called to a patient whom he found breathing stertorously and in deep coma. Since there was a suspicion of poisoning, the stomach was rapidly washed out, and the odor made it clear that formalin had been swallowed by mistake. On the following day the coma still persisted, and since no urine had been passed, a catheter was inserted, but only three or four drops of a dark fluid could be obtained. Diarrhea soon followed, and consciousness began to return slowly. Respiration, pulse and temperature now were normal, and the patient began to complain of much vertigo and burning in the throat. The urine came more freely. It contained traces of albumin and formic acid, but soon became normal after large amounts of water and milk. The local effects upon the digestive tract rapidly subsided.

Effect of Levico Water on Metabolism.—In experiments on himself, E. SCHREIBER (Münch. med. Woch., September 9, 1902) has studied the effects of small amounts of arsenic, such as are contained in the well-known Levico water, on general metabolism. His body-weight did not change, but there was a marked saving of nitrogenous principles, since considerably less nitrogen was excreted through the urine and the feces. The exceedingly favorable reports which have followed the use of Levico water may well find their explanation in the power it has to permit the full use of the ingested proteids.

Action of Ferric Perchloride in Erysipelas.—Iron is almost always given as routine treatment in cases of erysipelas, but few physicians even pretend to know what action it has upon the course of the disease. A very ingenious theory is offered by J. G. DRENNAN (Med. Rec., September 6, 1902), who suggests that it is not given for its hematinic action. The circulation being obstructed in the diseased area, the ferric chloride will not enter this area, but circulates in the vessels just outside of it, and exudes from the capillaries into the tissues in which they lie. Iron exerts its action by diminishing the size of the vessels by pressure from without. This action of iron increases a clotted or unsuitable area in which any bacteria that have so far escaped being entangled are prevented from advancing into new fields. Since it requires large doses of the drug to produce these effects, it is useless to depend upon tonic doses for good results.

Ipecacuanha Alkaloids.—Two alkaloids of this time-honored drug are now prepared and on the market; namely, cephaelin and emetin, and there is a gain in the accuracy of the physiological results and of satisfaction in therapeutic application. There are various differences between the alkaloids, especially as regards the emetic dose, and the question is probably not at the present time settled as to just which is more preferable for a given patient. R. B. WILD (Lancet, September 6, 1902) has an article on this subject which contains the following points. For the purpose of comparison, solutions of the different salts were prepared in water and in different strengths of alcohol. Half of each solution was used for clinical purposes; the other half was set aside and examined from time to time as to its keeping properties and activity. Some of the solutions the author has now kept for several years, and they are still active. It is, however, not advisable to expose them to a strong light. Cephaelin hydrochloride was soon found to be less suitable for the ordinary uses of ipecacuanha in catarrhal conditions and bronchitis than the emetin salts. The emetic action of cephaelin is so powerful that it is very difficult to regulate the dose so as to obtain any effect at all without causing nausea and sickness after a few days' continued use. In one case in an adult he found that even .01 gr. every four hours produced nausea and vomiting within three days. At the same time the effect upon the secretions of the nose and respiratory tract and the depressing action on the pulse were less marked than could be obtained by doses of emetin which caused no sickness. Another reason for preferring emetin to cephaelin was that the salts of the latter appeared to be less stable, since the solutions after a time became of a brownish-yellow color, while those containing emetin and kept under the same conditions were still colorless. He has not been able to distinguish any difference in the mode of action or keeping properties of the two salts of emetin which were used; namely, the hydrochloride and the hydrobromide. The solutions of these salts in 20 per cent. alcohol have remained uncolored, clear and active for several years, and there seems no reason to doubt their permanence within reasonable limits of time. Pharmaceutically, in the specimens the author has obtained, the hydrobromide appeared the purer salt, as it was whiter and better crystallized. The solutions first employed were one in 100, and proved too strong for convenience, as the expectorant dose was one to three minims for an adult. Solutions of the strength of one in 1,000 were then prepared, but though satisfactory in their action, the dose was inconveniently large, especially for emetin purposes. The one in 1,000 solution of emetin hydrochloride does not, in the author's experience, quite equal in activity freshly made vinum ipecacuanhæ, which is standardized to one in 1,000 of total alkaloids. During the last two years this authority has used a solution of emetin hydrobromide in 20 per cent. alcohol containing one gr. in each fluid ounce. This solution has proved very satisfactory, as it has remained unchanged up to the present time, is very active and reliable, and the dose is of convenient size; namely, for adults, five to 20 minims for expectorant and depressant purposes, and from one to three dr. as an emetic. He has also used a solution containing one in 100 of morphine hydrochloride and one in 500 of emetin hydrochloride as a sedative and diaphoretic in place of Dover's powder, but has not been entirely satisfied that the action of the solution in equivalent doses is equal to that of the powder. At present comparison is being made between a solution containing one in 500 of emetin hydrochloride and one in seven and one-half of liquid extract of opium and another solution containing one in ten liquid extract of ipecacuanha and one in 100 of morphine hydrochloride. It is still too early to draw any conclusions as to the relative value of the pure alkaloid and crude drug in either case. Wild says that his clinical opportunities for observing the therapeutical effects of emetics are so few that he has been unable to test sufficiently whether cephaelin possesses any properties (especially absence of circulatory depression) which will enable it to compete successfully with emetin and apomorphine as an emetic. Unless clinical observation reveals such properties there does not seem any special indication for the use of cephaelin, since even the emetic dose of the emetin salts is small enough for all practical purposes.

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THE NEED OF AN AMERICAN "D.P.H."

An English writer has declared that "sanitary instruction is even more important than sanitary legislation." This belief has been translated into British practice by the establishment of courses of instruction in sanitary science leading to the diploma in public health—the "D.P.H." which the applicant for a position in the public health service of England is expected to acquire as a preliminary to his candidacy.

From time to time efforts have been made to induce the legislature at Albany to grant State aid towards the foundation in this State of a school of public medicine. The failure of these efforts does not signify that the legislature is either hostile or indifferent. The proposed school could be established most advantageously in connection with an existing university, and a stumbling-block to legislative aid is encountered in the demand that one university be favored to the detriment of its rivals.

The need of an American "D.P.H." is pressing; whether public funds are or are not provided for the purpose, it is high time for the introduction of comprehensive courses of instruction in state medicine. In the near future, departments of health, national and local, will compare in importance and dignity with any governmental agency for the promotion of the general welfare. The progressive application of the ever widening principles of sanitary science demands training which our medical schools do not now provide. In England the candidate for "D.P.H." is instructed in the statute laws relating to public health, and he becomes familiar with the adulterations and contaminations of food, as well as with the means for their detection. He studies water-supplies and their regulation; the principles of hospital, dwelling and factory construction, ventilation, drainage and sewerage; the problems of school hygiene, trade nuisances, the diseases of animals in relation to the health of man, methods of dealing with epidemic contagious diseases, meteorology and vital statistics. The mere enumeration of these branches of instruction suffices to make evident our own need.

The functions of the modern board of health are legislative, judicial and executive. Not all branches of sanitary work demand medical training, but for many such training is indispensable. It is a mistake, however, to suppose that the control of departments of sanitation will remain generally in the hands of physicians without any effort on the part of the profession to retain such control. The education of the physician furnishes the best foundation for such work, but it must not be forgotten that the engineer, the chemist, the bacteriologist, are also in the field. In large centers of population the cooperation of these experts is necessary. They, no less than physicians, are men of general education and broad ideas, and their claims to leadership will command increasing respect if superior technical training is not made available for their medical rivals.

A recent work on municipal sanitation, from the pen of an engineer, declares that "*the bacteriologist, the chemist, the engineer, the intelligent school principal, and a growing body of laymen, understand the need of health protection and the methods necessary to that end, quite as fully as the physician, while their grasp of the subject is often more comprehensive and more in accord with modern ideas.*" There is an element of truth in this statement. The training of non-physicians in state medicine is not superior to that of physicians, but it is not greatly inferior. While our opponents have not much to boast of, they gain in strength because of our weakness. Medical schools must bestir themselves. If an American medical "D.P.H." is not soon provided the profession will find an important class of public positions slipping from its grasp.

THE OUTWARD VISIBLE SIGN OF THE INWARD SPIRITUAL GRACE.

THAT the size and measurements of the skull have a direct bearing on the intellect of the owner has been a popular belief since the days of Gall and Spurzheim, and on it are founded many of the misconceptions and fallacies of phrenology. Old as this rock of ages is, however, it has, under the attacks of science, cleft to a degree sufficient to let in the light of modern research, and beyond the facts that a square jaw is associated in our minds with determination, that a receding forehead is supposed to be indicative of ferocity, while a large occipital protuberance points to a fully developed but unplatonic fondness for the opposite sex, little has been accomplished to the credit of its devotees.

It is true that we can measure the skull in various planes and diameters, as has been done at the West Riding Asylum in England, and thus determine that the average of the circumference of the head in insane persons is practically the same as in the sane, and that seven and one-eighth inches is the size of the most commonly accepted hat; but we cannot indicate *degrees* of intelligence by figures any more than in our childhood days of mental arithmetic we could divide apples by oranges. Again, the inner surface of the skull hardly corresponds with the outer, and an exostosis might give a most startling variation to our measurements, when it would and could produce no effect on the contents of the cranial cavity. Notwithstanding this, some years since an expert for the Government in the trial of the assassin Guiteau, after exhibiting diagrams of the heads of many prominent people, culled from the *conformateur* of a local hatter, introduced a series of dimensions of the prisoner's head, obtained by measurements with flexible metal tubing. Any possible effect, however, that this might have produced on the jury was nullified by the defendant's rather irreverent but altogether pertinent characterization of the whole proceeding as "a lead-pipe cinch!"

According to Cosmos the question, "Is intelligence connected with cranial capacity?" has often been brought up by scientists, but their investigations have resulted in nothing, and this has generally been regarded as due to the fact (which we have already pointed out) that these "two magnitudes are incommensurable," as variations of intellect can hardly be mathematically expressed. In spite of these difficulties, and apparently undaunted by them, Professor Karl Parsons has proved the courage of his convictions by a series of experiments that he describes in a comparatively recent paper read before the London Royal Society. In order that the results of an examination of a considerable number of people might not be affected by a difference in age, sex and previous condition, he selected a homogeneous group of students, undergraduates in Cambridge University, where not only the environment would be the same, but where he could obtain from the college authorities the scholastic standing of each, and thus to a degree compare the outward visible sign of the head with the inward spiritual grace of its contents. The Anthropological Society of Cambridge agreed, it seems, to furnish the measurements made on a system invented by the professor, but what the system was, beyond the fact that it was "his own," does not appear. That it was not a "poor thing," however, seems probable from these facts: (1) From the days of perpetual motion to those of its understudy, the Keely Motor, all startling inventions have been shrouded in professional mystery, and (2) the results obtained from examinations in other colleges and universities in the United Kingdom agree in bringing out the combined conclusion "that the intelligence of a student, so far as it can be measured by his success as a scholar, has no sensible relation to the size of his head." This also confirms the statement of another "professor," this time an American, the late Brother Jasper of Richmond, who a decade ago insisted that it was the sun and not the world that moves; as a proof of which we find ourselves, after a generation of experiment and endeavor, still clinging to the aphorism of the past: "Small head, little wit; big head, not a bit."

INCREASE OF PHYSICIANS.

THE rosters of the medical colleges of the United States for the educational year just opened show already that there is to be an increase in the number of medical students over those registered in previous years. Notwithstanding the fact that practitioners all over the country have been complaining for some time that there is so much competition in professional life as to make the earning of a suitable living very difficult in many cases, there has been for many years a constant increase in the number of those applying themselves to medicine.

It is well known that a large number of those who graduate from medical colleges do not continue in the practice of the profession. At least one-third of all medical graduates, it is said, take up some other occupation in life. In recent years the number of physicians who have found it advisable to turn to other pursuits has been larger than ever. As brokers and real-estate dealers many have found a much more lucrative occupation. But even this factor has not relieved the stringency of the situation to any marked extent.

It would seem wise then for family physicians generally to discourage more frequently than they do at present the taking up of the study of medicine by the young members of families to whom they stand in the position of advisers in more than purely medical matters. The value of medical education as an intellectual training is scarcely of sufficient importance to justify the thought that the years spent at medicine will anyhow prove of equivalent value to almost any other form of development. The feeling that men who have had a medical education will at least know how to take care of their personal health is entirely erroneous. Physicians are well known to be as a rule extremely careless of their health, and their want of even ordinary watchfulness in this matter is self-confessed in their own ironical question, "What is the use of being a doctor if you can not neglect your own health?" As a matter of fact ex-physicians and ex-medical students make the worst possible patients, and exemplify very well the proverb that "a little knowledge is a dangerous thing."

While in America the number of medical students is increasing, on the Continent the medical profession is congratulating itself on the lessened registration in the medical schools during recent years. La Semaine Médicale for September 3, 1902, publishes the statistics of medical-student registration in Germany and France for the last five years. In 1897 there were 8,317 men and women registered as medical students in the various universities of France. In 1902 the number was but 7,882, a decrease of 435 or nearly 5¼ per cent. In the same five years there was a reduction in the number of German medical students from 8,141 to 6,749, making it 1,392 less in 1902 than in 1897, or more than 17 per cent. It must be remembered that Germany has a population of nearly 55,000,000, while France has scarcely 35,000,000. Moreover, all students of medicine in Germany must be on some university register, but a large number of French medical students—nearly one-fourth, La Semaine Médicale says—while doing special hospital work are not enrolled. The reduction in France is then probably not even as great as has been announced.

Present industrial conditions in Germany are responsible for the very sensible state of mind that has brought on this eminently desirable decrease of prospective physicians. The development of many great industries calling for special knowledge of applied science has opened up a large number of careers for young Germans in which the immediate rewards are much better than in the professions, and the eventual prospects of great prizes for the specially successful at least as good as in any other condition in life. A corresponding industrial development has not taken place in France, and hence the overcrowding of the profession continues much greater than in Germany. In the United States, however, industrial conditions are quite as good as in Germany, and it is time to look for a like effect in the reduction of professional aspirants.

How undesirably crowded the medical ranks can become is well seen in some statistics of the number of European physicians to the population published recently by the Zeitung für Social-Wissenschaft. In Germany the number of medical practitioners to every thousand of the inhabitants is five and one-tenth, while in France, despite the proportionately and even actually larger number of medical students, it is not quite four to the thousand. The English-speaking countries of Europe have the highest ratio of physicians to inhabitants, Scotland having nearly eight, England over six, and Ireland nearly six per thousand of population. Spain has more than seven physicians to the thousand inhabitants, Switzerland and Italy slightly more than six, while Sweden, Russia and Hungary have less than three per thousand.

In the United States the average number of physicians in the different States is not yet as high as in the most highly civilized European countries, but in some of them it approaches nearly to the general average on the Continent. New York and California have each nearly three physicians to every thousand inhabitants, and most of the States have more than two per thousand.

Old physicians used to say that at least five hundred persons were required to provide a reasonable living for even a young doctor. Recent graduates were advised never to settle in a town of less than a thousand people if there was already a physician in practice, unless there was good prospect of an immediate increase in the population. Curiously enough the proportion of physicians to the population in the large cities is not greater than in the immediately neighboring country. In New York, for instance, there are practically as many physicians to the number of inhabitants in the State outside of Greater New York as in the metropolis itself. This makes even clearer the necessity for limiting, as far as it can be done by legitimate attention to the best professional interests, the number of those about to enter upon the study of medicine. The increasing severity of entrance regulations and length of studies required will do much in this matter, but the personal influence of physicians can and should be exerted so as to secure only select candidates for medical professional ranks.

ECHOES AND NEWS.

NEW YORK.

Harlem Hospital.—The Board of Estimate has appropriated the sum of $220,000 for the new Harlem Hospital.

Dr. Van Valzah Resumes Practice.—Dr. W. W. Van Valzah has resumed professional work in partnership with Drs. Nisbet and Hayes.

Kings County Medical Society.—At the last regular meeting of this society, held Oct. 14, Dr. James J. Walsh of New York read a paper on Rheumatism and Pseudorheumatism. It was fully discussed by Drs. Bierwirth, Fuhs and Morton.

What is the Medical Profession Coming To?—On the ground that the death of his seven-year-old daughter Gertrude was indirectly due to improper diagnosis of her disease, John P. Purcell of New Dorp, S. I., was awarded in the Richmond County courthouse, at Richmond, yesterday, a verdict of $500 damages against a reputable physician of New Dorp. The case was founded on a supposed confusion of bronchial pneumonia and diphtheria. With courts that will sustain almost every form of quackery, the question might well be asked, Has the reputable practitioner any rights?

The Religious Anti-Drug Society.—The Rev. W. N. Richie, D.D., a Presbyterian clergyman with an office in the Presbyterian Building, and who is secretary of the Interdenominational Committee for the Cure of the Drug Habit, of which, according to his circulars, the Rev. R. F. Sample, former Moderator of the Presbyterian General Assembly, is president, has been found guilty in Special Sessions of practising medicine illegally. He was fined $75. The New York County Medical Society was the complainant in the case. For the last three years Dr. Richie, according to the complaint in the case, has advertised a cure for the drug habit. According to circulars and pamphlets which he sent out the Interdenominational Committee was formed for the purpose of receiving donations for the curing of victims of the drug habit by Dr. Richie's remedy. The treatment was for those in impoverished circumstances, who could not afford to procure the remedy themselves. Dr. J. D. V. Young of the County Medical Society said that the society had had its attention first called to Dr. Richie's work last August. Dr. Young said that complaint had been made that Dr. Richie was not a licensed physician and that he was consequently violating the law of this State by prescribing for those who came to him. "Dr. Richie," according to Dr. Young, "did not have the right to prescribe a cure for the morphine habit. A druggist has the right to sell patent medicines or any other medicines to those who call for them, but unless he has regularly passed his examination as a physician the law says he cannot prescribe any remedy. That was what Dr. Richie apparently was doing. He was prescribing his own remedy, according to the complaints we received, and as a clergyman he had no right to do that, no matter how efficacious it might be."

PHILADELPHIA.

Obstetrical Society of Philadelphia.—Dr. F. C. Hammond has been elected secretary of this society to succeed Dr. Frank W. Talley.

Decrease in Contagious Diseases.—For the week ending Oct. 11 there were but 55 cases of typhoid fever, as compared with 100 the preceding week. But one case of smallpox was reported.

Philadelphia Hospital Nurses Graduate.—The annual commencement of the Philadelphia hospital training school for nurses was held Friday evening, Oct. 10. Addresses were made by the mayor and by officials and physicians of the institution. The graduates numbered 24.

Books Not Medium for Spreading Disease.—The librarian of the Philadelphia Free Library believes that the chances of spreading disease by the circulation of books from a public library are very slight. He states that for every book touched by a reader there are fully 100 handled by employees of the library, among whom, in spite of this, there has not been an instance of contagious disease since its beginning. When one of the volumes is found in a house where there is a contagious disease it is destroyed by the physician in charge, this being by order of the Board of Health. Less than 200 books a year are lost in this way.

Report of State Board of Health.—The seventeenth annual report of the Pennsylvania State Board of Health, just issued, contains references to many items of interest to the profession. The report contains the first complete list of township school boards of health authorized by the legislature in 1899. There are now 20 of these in operation. During 1901 there were established 19 town and borough boards of health. The report states that it is yet to be demonstrated that vaccine virus ever contains or becomes contaminated with the tetanus bacillus. As tetanus could not logically be said to follow vaccination unless the germs of that disease be introduced into the wound, the board states that no person need fear vaccination on that account. The need of this preventive of smallpox is urged. Lists of the points in the State where smallpox has occurred are given. During the year the assistance of the board was required at 29 points for the suppression of diphtheria, as against 38 in 1900.

For Medical Defense.—The Philadelphia County Medical Society has under consideration certain plans for aiding its members in meeting suits and threats against them and also for assisting in prosecuting illegal practitioners. The plan calls for the appointment of an attorney for one year to conduct suits for the society and to assist the district-attorney in stopping illegal medical practice. The directors of the society will assume charge of suits for malpractice brought against members, if the censors decide that the claim is valid. This does not apply to suits arising from any affair happening before the person became a member of the society. The directors will have sole authority to handle the case by defending the claim or by compromising, except when the member in question is also a member of other protective associations. The society is not bound to the payment of damages awarded. It is probable that the annual dues will be raised in order to insure a sufficient fund to carry out the above scheme.

Nervous Symptoms in Chronic Nephritis.—At a recent symposium on nephritis at the Philadelphia County Medical Society Dr. J. Hendrie Lloyd said that it was obligatory for the neurologist to make himself familiar with the symptoms and treatment of nephritis. Symptoms may be divided into regional and general. Special peripheral parts do not suffer markedly but the general involvement may make up a symptom-complex not unlike that found in other conditions. Regional symptoms were dwelt upon particularly. Headache as an early symptom of nephritis is of great importance. Though not common it is very often overlooked in the cases in which it does occur and treated with every coal-tar product known before it is finally diagnosed. Headache is rarely a truly isolated symptom. A pseudomigraine late in life should lead to suspicion of either nephritis or cerebral disease. In some of the cerebral manifestations of nephritis a difficult diagnostic problem is involved, although uremic encephalopathy includes more than convulsions. There is nothing absolutely distinctive about the convulsions and coma of Bright's disease. The diagnosis must be made by exclusion, by examination of the urine, etc., and then it is still difficult. Subnormal temperature as a sign of uremic coma is unreliable. Attention was called to the simulation of organic brain disease (tumor, etc.) by nephritis.

First Medical Book Written and Published in America.—A recent number of the Philadelphia Press contains, in an article on the College of Physicians, an interesting account of the first medical book written and published in America. The College possesses the only known copy of the first edition of that work, and also the original manuscript notes of it. The author, Dr. Thomas Cadwalader, freshly returned from studies in London, embodied in the book the results of his studies concerning lead colic, or "Dry Gripes," as it was popularly called. This disease, which he characterizes as "a cruel distemper," was especially prevalent because of the consumption by Philadelphia's population of large quantities of West Indian rum made by distillation through leaden pipes. Dr. Cadwalader took his notes on the disease with him to Trenton, where in 1745 he wrote the book in question. As if expecting criticism of his book he inserted a paragraph explaining how Horace distinguished a critic from a caviller. Thinking better of this after a few copies of the book had been printed, the reference to critics was left out of the remainder of the edition. The following from the preface gives a glimpse of a state of affairs that is rather refreshing during the present almost universal craze to rush into print: "I have long been of opinion that 'tis the duty of physicians to frankly communicate to the world any particular method of treating diseases which they have found to be successful in the course of their experience and not generally known or practised by others. By this the medical art has been and may still be improved. Many are the advantages the present age reaps from such disinterested conduct in our predecessors; and when we have freely received, surely we should freely give."

The Treatment of Nervous Phenomena in Chronic Bright's Disease.—Dr. J. M. Anders spoke on this subject, discussing first the general treatment of the disease. A suitable diet for individual cases must be selected, as a routine method in this regard will not do. An absolute milk diet in the presence of gastric irritability or during acute exacerbations of the attack is advisable, but at other times this should not be the sole food. When given alone milk furnishes an abundance of carbohydrates, and the patient also develops general weakness, both of these being undesirable. For these reasons a mixed diet is better. An abundance of fluids should be given. The treatment of nervous symptoms is purely symptomatic. In cases of coma use croton oil, the hot pack and pilocarpine, with strychnine and digitalis to support the heart. Blood-letting may be finally resorted to. When nervous convulsions are present treatment is governed by the state of arterial tension, venesection often being especially serviceable. The working rule in these cases should be, "When in doubt, bleed." Cardiac stimulants are demanded if that organ shows signs of weakness after bleeding. These consist of digitalis, strychnine, strophanthus, and camphor hypodermically. The general opinion is that opium aggravates the tendency to uremia. When venesection and jaborandi have failed, opium may be tried, in chronic cases only. The value of chloroform in cases of convulsions is much exceeded by free bleeding. To relieve arterial tension in chronic cases nitroglycerin, potassium iodide, or sodium nitrite may be exhibited. The use of this last drug has been greatly neglected by physicians. For the headache of Bright's disease, generally only temporary relief can be secured. The combination of phenacetin and caffeine has given Dr. Anders much satisfaction in the treatment of this annoying symptom.

Hemopericardium Simulating Mediastinal Tumor.—Dr. David Riesman reported this interesting case at the October meeting of the section on medicine of the College of Physicians. Hemopericardium as generally recognized is an acute condition and is fatal or accompanies a fatal disease. The case in question would seem to indicate that there is a chronic form and also suggests the possibility that such a form may be amenable to treatment. The patient was a male, aged thirty-eight, a worker in a rolling-mill. Symptoms began five years before admission to the hospital and had been marked for the last two years. For five months he had not been able to work. There was dyspnea, expectoration, dryness of the throat, bad taste in the mouth and marked distention of the veins. There was absolute flatness over a large area continuous with the heart-dulness, this extending two inches to the right of the sternum at the level of the fourth rib. Auscultation revealed loudness of the heart-sounds, which were transmitted to the right and heard over the area of flatness as well as at the usual site. Wheezing râles were heard over the chest, and there were some signs of pneumonia posteriorly. The pulse was 90. Cyanosis was present, as was edema of the feet and afterward of the arms. The diagnosis of mediastinal tumor was made. By means of a needle a reddish fluid containing red and white blood-cells was obtained. This was regarded as another evidence of new growth. A second tapping was proposed, but was abandoned because of fear of a possible aneurism. Autopsy revealed a hemopericardium with no apparent cause for the effusion. The kidneys showed only cyanotic induration. One of the points emphasized by Dr. Riesman was that a pericardial effusion does not necessarily eliminate the sounds of the heart, this case showing that they may be preserved and even increased. The intensity of the sounds probably depends more on the vigor of the heart-muscle than on the quantity of the fluid present. The rational treatment of these cases is tapping. The question regarding the propriety of injecting iodine for the cure of recurrent hemopericardium arises. Dr. Riesman thinks this expedient would be worth trying. Points brought out in the discussion were the frequency of the signs of pneumonia posteriorly in cases of pericarditis, and the not infrequent mistake of diagnosing pericarditis with effusion when the condition is that of acute dilatation of the heart.

CHICAGO.

Commencement Exercises of Rush Medical College.—At the convocation of the summer class of Rush Medical College 20 students were graduated. The doctorate address was delivered by Dr. Norman Bridge.

Opening Exercises of Northwestern University Medical School.—These exercises occurred Oct. 7, when an address was delivered by Dr. Henry Gradle, entitled "A Glimpse Into the Future of Medicine." It is said that the registration so far is larger than in any previous year. Dr. F. Robert Zeit will take the chair of pathology for the year in the place of Dr. A. P. Ohlmacher, who has resigned.

County Institutions.—The County Board of Commissioners has decided to submit to the voters, at the election next month, a proposition to issue $500,000 in bonds, of which $350,000 is to be devoted to the remodeling of the insane asylum and hospital at Dunning, building additions thereto, and also erecting a group of cottages for consumptives, and $125,000 for the erection of a ward for epileptics, a ward for contagious diseases, and a ward for alcoholic cases at the County Hospital.

Surgical Treatment of Hemorrhagic Pachymeningitis.—Dr. John C. Munro of Boston read a paper (by invitation) before the Chicago Medical Society, Oct. 8, on this subject. He drew the following conclusions: Alcohol, syphilis, acute and wasting diseases and trauma apparently bear some causative relation. The symptoms are those of acute subdural hemorrhage coming on slowly, producing mental irritation, spasm, rigidity of the extremities, convulsions, and later on paralysis, the sequence being more or less irregular. The treatment is surgical, and should be instituted as early as possible. Without operative relief, in cases where pressure symptoms manifest themselves, the prognosis is practically hopeless. Early operation gives the best chance for recovery.

Hospital Ordinance.—Recommendations regarding the provisions of the proposed hospital ordinance have been made to Commissioner of Health Reynolds by Medical Inspector Hunt. He urges that the license fee be increased from $10 to $250 a year, and that the consent of the owners of two-thirds of the frontage in the block involved and on the nearest sides of the adjoining blocks be required. Under the present law an organiaztion desiring to establish a hospital anywhere in Chicago must obtain the consent of all the individuals owning property in the entire block in which the hospital is to be located, and also the consent of all property owners on the opposite side of the street on which the hospital is to face. This makes it impossible to build a hospital and obey the ordinance, unless the hospital is to be placed away out on the prairie. The trouble with the frontage consent requirement is that it enables some property owners to hold out and blackmail those proposing to set up a hospital. Chicago is particularly fortunate in her system of hospitals, which is not excelled by that in any other American city. The proposed changes to the hospital ordinance are now in the hands of the health committee, and pending its report of a bill containing its recommendations the city council has relieved the hospitals until Jan. 1 from the operation of the clause requiring frontage consents in the present ordinance.

Hydrotherapeutic Treatment of Typhoid Fever.—Dr. Henry B. Favill spoke on this subject. The statistics in favor of the bath treatment were favorable as compared with other forms of treatment. He referred to the typical, original Brand bath, which he defined as the vigorous rubbing and manipulation of the typhoid patient, well immersed in water of a temperature varying from 60 to 80° F. The manipulation of the bath is an essential part of the process; the temperature is subject to variation. Although the antipyretic value of the bath is important, he considers it a mistake to centralize attention upon its antipyretic effects. Its effect upon the patient is sedative and tonic. A patient who is subjected to an intelligent administration of a cold bath in typhoid, typically and regularly, shows marked sedative effects, as manifested, first, by a feeling of comfort, as against a previous feeling of malaise; second, as manifested by a tendency to sleep, as contrasted with previous restlessness and inability to sleep. The second phase of the bath was its tonic effect, as manifested by an improvement in the cerebral condition, a condition of clearness of mind as against hebetude; of alertness as against indifference; of comfort, physical and psychical, as against distress. This was a fair index of improved tone. As to the digestive tract, there was typically a better digestion, as evidenced by the decidedly less typhoid character of the tongue, and by a less tendency to meteorism. He described a modification of the Brand method for use in hospitals and in private practice.

The Dietetic Management of Typhoid Fever.—Dr. Frank X. Walls read a paper on this subject. He paid particular attention to "milk alone," saying that it was objectionable as a typhoid diet: (1) Because it is intolerable as a sole food for the adult in health or disease; (2) it contains a large amount of poisonous filth; (3) in digestive tract infections it feeds the parasitic intestinal flora rather than the hose; (4) the systemic intoxication from milk-poisoning is serious and often fatal; (5) we have abundant other substances that are without these objectionable features, and more palatable, equally abundant, very nutritious, easily digested and readily assimilated. How will we feed typhoid patients, for they must be fed, and the successful treatment depends in a large measure upon the attention that is given to the diet? The keynote of the dietetic management is individualization. Water should be given freely, plain or charged. Gruels, well cooked and seasoned, strained and malted, if preferred, made from oatmeal, rice, barley, arrowroot, or other cereals, have a moderate nutritive value. Meat broths or soups of beef, mutton or chicken have a slight nutritive but more stimulant value. Meat juice, made by the cold method, contains from seven to nine per cent. of proteid, and is a good food, and from 5 to 15 ounces may be given a day. White of egg added to water, gruels or soup enriches them. The yolk of the egg is very rich in fat, and, beaten in with cereals, it makes a very palatable, nutritious food. Jellies, calf's-foot or fruit, are a delicate addition. Fruit juices, of orange, grape, berries, lemon or pineapple are tonic beverages that break the monotony of the sameness of a typhoid diet. Cream and milk, but the best only, may be given very cautiously with other foods; given plain, or flavored with malt, coffee, chocolate, etc., acidulated, peptonized, pancreatinized. Koumyss, buttermilk, junket, are nutritious milk foods. This list is merely suggestive, and may be as varied as the needs of the individual require. The concentrated foods are rarely required, though somatose, tropon, plasmon, plasmon coca, or condensed milk are at times of service. Patients should not be overfed. The physician should watch the abdomen for gaseous distention of the bowel, and the stools for evidence of indigestion or food putrefaction. If present, correct the diet rather than administer antiseptic or antifermentative remedies. Alcohol may be used according to the particular indications in the specific case.

Typhoid Fever in Infants and Children.—Dr. I. A. Abt reported 90 cases. Referring to the treatment used, the author stated that a large proportion of the cases ran the entire course of the disease without receiving any drugs. Patients were kept in bed and, as nearly as possible, absolutely quiet. They were encouraged to change their position in bed frequently. This enforced rest in bed could not be strictly adhered to in young children. It was necessary to pick them up on account of restlessness, or to change their napkins, and for their baths. The mouths were kept scrupulously clean by washing with boric acid solution. The usual precautions concerning the prevention of bedsores by rubbing the back with alcohol were practised. During the febrile period the patients were kept on a liquid diet, consisting almost exclusively of milk, except in those rare cases where milk could not be borne. After the temperature had fallen to normal, strained gruels, broths and fruit juices were permitted. The patients were all encouraged to drink large quantities of water. No solid food was allowed until the tenth day of normal temperature. The treatment of the temperature was hydrotherapeutic. A temperature above 102° F. was treated by tepid sponging; if the temperature rose still higher and was not reduced by the sponging, the patient was placed in a cold pack. In those cases where the fever was not controlled by either of the foregoing, the patient was given a cold bath. He was placed in a comfortable, warm bath of about 90° F. This was gradually reduced to about 80° F. He found it rarely necessary to reduce the temperature of the bath much below this point. At times, however, where the fever did not yield, the bath temperature was reduced to 70 or 75° F. No antipyretic drugs were employed to reduce the temperature in any case. In cases showing nervousness or restlessness, an ice-bag applied to the head sometimes gave relief. At times a small dose of Dover's powder or sodium bromide was given for restlessness and sleeplessness. Constipation was treated by enemata, and cases of severe diarrhea were given small doses of deodorized tincture of opium. In the prolonged cases, which showed the exhausting effects of the disease, where the pulse was rapid and weak, whiskey or brandy was employed, and moderate doses of strychnine were given. Intestinal antiseptics were rarely employed. Complications were treated as they arose on a rational plan. At the close of the febrile period, patients were frequently given a tonic in a routine way, the favorite being the elixir of iron, quinine and strychnia.

Bulletin of the Health Department, Week Ending Oct. 11, 1902.—With one exception, the number of deaths—403—reported during the week ending Oct. 11 furnishes the lowest October mortality on record for the city of Chicago. The annual rate was 11.53 per 1,000 of the estimated mid-year population, 1,820,000. In the week ending Oct. 19, 1901—a phenomenally healthful year in all parts of the world—the total reported deaths were 370, and the annual rate was 10.95 per 1,000 of the estimated mid-year population, 1,758,000. There has been nothing in the weather conditions, the character of the water-supply, or any of the other factors affecting the public health to account for this remarkably low death-rate. It must be attributed to the campaign of education against typhoid fever carried on during the last three months, which has led to greater attention being paid primarily to the prevention of that disease, and also to the increased care of health generally caused thereby. The number of typhoid deaths—22—was exactly the same as during the previous week and as in the corresponding week last year, but the duration of the disease in the fatal cases shows that the epidemic is practically at an end and that the continuous pollution of the water-supply has been offset by the precautions taken in its use. During August the average duration of the fatal cases was 18.5 days; in September it was 24.3 days; since Oct. 1 it has been 31 days—one case being of 90 days, one of 74 days and more than half being of a duration which shows that the disease was contracted in July and August. Returns from various hospitals show 11 per cent. fewer cases under treatment at the close of the week than at the close of the previous week. Sore throats have been occurring in various localities, and a large proportion of these are caused by the germs of diphtheria and influenza. The correct and early diagnosis of these infections can only be made by the microscope. The municipal laboratory offers the busy physician every aid in controlling these diseases early in the season. In malignant cases of diphtheria, when membrane can be sent in with the culture, an immediate examination and diagnosis can often be made. Such specimens should be sent in by special messenger and marked "urgent." A diagnosis will be returned to the physician by telephone at the earliest possible moment. Thirteen cases of smallpox were sent to the isolation hospital during the week. Five other cases were found which had run their course under the supposition that they had chicken-pox. Some of these unrecognized cases attended the St. Alphonsius parochial school at Southport and Wellington avenues. All attacked were children ranging in age from one to twelve years, except one twenty-three years old. None had ever been vaccinated. A case of smallpox in a public school could not have resulted in such an outbreak, as these schools are well protected by vaccination. The parochial schools are not so thoroughly vaccinated, and their principals do not make a certificate of vaccination a requisite to school enrolment. The practice is to admit all and some time during the year have the school vaccinated, but certificates in all cases are not exacted, as in the public schools, though the law requiring a certificate of vaccination applies to the parochial school the same as to the public school. Had this law been complied with in the St. Alphonsius school at the beginning of the term the nine pupils from that school now in the isolation hospital with smallpox, would have escaped the disease. Father Boyle, the head of this school, is an able, conscientious man, and the moment he heard of the existence of smallopx in his neighborhood he had his pupils vaccinated. It is doubtful if principals of parochial and private schools know that the law giving children the benefit and protection of vaccination applies to them as well as to principals of public schools. The 14 deaths reported from suicide again call attention to the appalling increase of self-destruction during the last decade. Since the first of the year there have been 321 suicides—an annual rate of 22.6 per 100,000 of population. The rate in 1890 was 12. In order of greatest increase of suicide 10 cities rank as follows: St. Louis, Chicago, Hoboken, Oakland, Cal., New York, Milwaukee, Cincinnati, Newark, New Orleans and Brooklyn. The health department is confirmed by its researches in the belief that this increase of self-murder, like the corresponding increase of pneumonia during the period, is due to influenza, and again urges upon physicians the prompt diagnosis of this diabolical disease and its radical treatment.

GENERAL.

Egyptian Medical Congress.—Major William C. Gorgas, Surgeon, U. S. A., has been designated by Surgeon-General O'Reilly to represent the United States at the first Egyptian Medical Congress, which will meet in Cairo on Dec. 16. The purpose of the Congress is to collect data in regard to tropical diseases and discuss means for eradicating them.

Christian Science Again.—The Arlington Chemical Company have just issued a pamphlet reprint of a series of short lectures delivered by the Rev. Andrew F. Underhill of St. John's Episcopal Church, Yonkers, entitled "Valid Objections to Christian Science," which is at the same time both interesting and instructive. The profession cannot fail to appreciate these efforts in trying to disseminate sensible ideas regarding this so-called religion.

Interstate Reciprocity in Medicine.—It is reported that 30 States are to unite in common laws to regulate the practice of medicine in the United States. This announcement was made to-day by the State Board of Medical Examiners. Hitherto Wisconsin, Indiana, Michigan and Ohio have had an agreement that any physician authorized to practise in any of these States is not barred from any other, as all the States have practically identical laws.

Treatment of Scarlet Fever by Serum.—At the seventy-fourth annual meeting of the Deutscher Naturforscher und Aerzte recently held at Carlsbad, Dr. Moser of Vienna reported on a serum treatment for scarlet fever which he said had resulted in a reduction of the mortality of 50 per cent. Professor Escherich and Dr. Paltauf of Vienna also spoke in favor of the new serum. At the same assembly Dr. Oskar v. Hovorka reported on a serum therapy for malaria.

Medical Practitioners in Egypt.—The number of Greek medical men in Egypt is always increasing, and, of course, the British have increased greatly in numbers since the beginning of the occupation. A list recently compiled at the central office of the Sanitary Department shows that there are now 1,211 medical men of all nationalities in Egypt; 604 are Europeans; 85 hold a Persian or a Turkish diploma from Teheran or Constantinople; 45 are natives with a European diploma, and the remaining 477 are natives educated in Cairo at the one medical shool of the country. The lowest mortality is in the desert districts, and the highest is in the largest towns.

Oregon State Medical Society.—The following new officers of the Oregon State Medical Society were elected September 11, 1902: President, Dr. Henry Waldo Coe, Portland; First Vice-President, Dr. F. W. Van Dyke, Grants Pass; Second Vice-President, Dr. J. A. Geisendorfer, The Dalles; Third Vice-President, Dr. J. P. Tamiesie, Hillsboro; Secretary, Dr. A. D. Mackenzie, Portland; Treasurer, Dr. Mae Cardwell, Portland. Councilors: Dr. W. J. May, Baker City; Dr. J. Fulton, Astoria; Dr. Wm. Amos, Portland; Dr. G. F. Wilson, Portland; Dr. C. S. White, Gervais; Dr. S. T. Linklater, Hillsboro; Dr. W. T. Williamson, Salem; Dr. Wm. House, Pendleton; Dr. Ellis, Portland; Dr. R. C. Coffey, Portland.

Dr. Currie and the Burns Manuscripts.—It appears probable, says the British Medical Journal, that Mr. Pierpont Morgan's offer to purchase the Burns MSS. in the Liverpool Athenæum Library for £5,000 will be declined. It may be interesting to some of our readers to know that the MSS. formerly belonged to Dr. James Currie, who used them in the preparation of his well-known biography of the poet. Dr. Currie, who was born in 1756 and died in 1805, after an adventurous career in the West Indies and America, studied medicine at Edinburgh and graduated at Glasgow. He settled in Liverpool, where he soon acquired a leading position, not only in medicine but in literature. He was an ardent advocate of the abolition of slavery and a political pamphleteer of some note. He was a pioneer of the treatment of fevers by cold bathing, and urged the regular use of the thermometer in clinical observation.

American Veterinary Medical Association.—The thirty-ninth annual meeting of the American Veterinary Medical Association was held at the West Hotel, Minneapolis, Minn., Sept. 2-5, 1902. Dr. J. F. Winchester of Lawrence, Mass., presided. The address of welcome was made by Mr. Wallace G. Nye, Secretary of the Commercial Club of Minneapolis, and was responded to by Dr. Roscoe R. Bell of New York. The President's address, by Dr. Winchester, was in the form of a plea to the profession to take a more elevated position upon all matters pertaining to its interests. The following papers were read: The Hospital Management of Dogs, by Charles Ellis of St. Louis; The Pathogenesis of Equine Pneumonic Emphysema, by A. H. Baker of Chicago; Icterohematuria of Sheep, by M. E. Knowles of Helena, Mont.; External Ulcerative Anovulvitis of Cattle, by John J. Repp of Ames, Ia.; Texas Fever and its Relation to the Live-Stock Interests of Tennessee, by W. C. Rayen of Nashville; Equisetum Poisoning, by F. A. Rich, Burlington, Vt.; Organization of State Veterinary Work, by Leonard Pearson, Phila.; Results of Strict Sanitary Work in Arizona, by J. C. Norton of Phœnix; Malarial Fever in the Horse, by F. Torrance of Winnipeg, Manit.; Hemorrhagic Septicemia in Cattle, by S. D. Brimhall of St. Paul; Poisonous Stock Foods, by N. S. Mayo of Manhattan, Kan.; Barrenness in Bovines, by Charles Schmitt of Dodgeville, Wis.; Differential Diagnosis of Farcy, Furunculosis and Bursattee, by C. C. Lyford of Minneapolis. Other papers were read by title and will appear in the printed proceedings. On Thursday afternoon the members and visiting friends were given an excursion on Lake Minnetonka, and in the evening they were entertained by a banquet at the Hotel Del Otero, Spring Park. The officers for the ensuing year are, President, Dr. S. Stewart, Kansas City, Mo.; Vice-Presidents, Dr. J. G. Rutherford, Ottawa, Can., W. H. Dalrymple, Baton Rouge, La., Dr. E. M. Ranck, Glenolden, Pa., Dr. M. E. Knowles, Helena, Mont., Dr. M. H. Reynolds, Minneapolis, Minn.; Secretary, Dr. John J. Repp, Ames, Ia.; Treasurer, Dr. Wm. Herbert Lowe, Paterson, N. J. Sixty-six new members were elected, making the membership at this time over 500.

Changes in the Medical Corps of the Navy, Week Ending Oct. 11.—P. A. Surgeon C. P. Bagg, ordered to the Naval Hospital, Mare Island, Cal.; Asst. Surgeon E. M. Brown, detached from the Naval Hospital, Mare Island, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.; P. A. Surgeon R. S. Blakeman, having been found incapacitated for active service on account of disability incident thereto, is placed on the Retired List of the Navy; Surgeon F. J. B. Cordeiro, detached from the Constellation, and ordered to the Naval Training Station, Newport, R. I.; Surgeon M. H. Crawford, detached from the Chicago, and ordered home, when his resignation will be accepted, voluntarily tendered; P. A. Surgeon M. H. Bucher, detached from the Panther and ordered to the Machias; P. A. Surgeon W. H. Bell ordered to the Yankton; P. A. Surgeon D. N. Carpenter, detached from the Illinois and ordered to the Chicago; Asst. Surgeon T. M. Lippitt, ordered to the Naval Hospital, New York; Asst. Surgeon J. P. Traynor, detached from the Naval Hospital, New York, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.; Asst. Surgeon A. Stuart, detached from the Yankton, and ordered home to wait orders; Asst. Surgeon F. M. Bogan, detached from the Machias, and ordered to the Naval Hospital, Washington, D. C., Oct. 30; Asst. Surgeon F. M. Munson, detached from the Naval Hospital, Washington, D. C., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.; Asst. Surgeon M. W. Baker, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.; Asst. Surgeon H. F. Strine, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.; Asst. Surgeon R. O. Marcour, ordered to the Franklin; Asst. Surgeon H. E. Odell, ordered to the Naval Hospital, Norfolk, Va.; Asst. Surgeon R. E. Ledbetter, detached from the Chicago and ordered to the Illinois; Doctors B. F. Jenness, H. Shaw, and R. H. Michels, appointed Acting Assistant Surgeons, with the rank of Lieutenant, from Oct. 4; Doctor John L. Neilson, appointed an Assistant Surgeon, Oct. 4.

Health of the Army.—The report of Surgeon-General Forwood shows that in spite of the changed conditions affecting the army, and the transfer of troops from temperate to tropical climates and vice versa, the health of our military forces as a whole during 1901 was about the same as its average for the preceding 10 years, and considerably better than during 1900. The mean strength of the army was 92,491 men, of whom 81,885 were Regulars, and 10,606 Volunteers. The death-rate from all causes was 19.94 per 1,000, as compared with 22.74 in 1900, and with 11.91 for the preceding decade. In 1900 the death-rate in 341 cities of more than 8,000 population was 18.6 per 1,000; the figures for the army show that even in war time military life is not very much more dangerous than civil life at home. The admissions to sick report in the year covered by the report constituted 1,791.59 per 1,000 of the strength; that is, every man on an average was reported sick one and three-quarter times during the year. The figures of wounds and injuries are curious. Cases to the number of 17,736 were treated; but the largest proportion of these came from the United States and Cuba. The Porto Rico regiment had an admission rate of 147.43; the troops in the Philippines and China, one of 168.33; the command in Cuba had a rate of 351.90, and the troops at home stations one of 250.08. This difference in the rates of troops on active service and those at home is ascribed to what is undoubtedly the fact, that men on garrison duty in time of peace report sick for slight injuries which they would ignore if on active service. From contagious diseases, the army was very free during 1901. There were only 14 cases of scarlet fever, and 1,382 of mumps; and no deaths were due to either of these sicknesses. Twelve men out of 769 who had measles died, and 37 out of 125 who had smallpox. One out of 14 cases of yellow fever resulted fatally. All of these cases occurred in Cuba prior to the precautionary measures taken by Major Walter Reed, Surgeon, U. S. A., as a result of his discovery that the disease was carried by mosquitoes. There were 594 cases of typhoid reported officially, with 78 deaths and five discharges for disability. Gen. Forwood thinks the figures too low, as more than 1,800 cases of fever were reported as "undetermined." The army was wholly free from cholera for most of the year; but Manila and other places in the Philippines suffered from an outbreak of the disease, and during the month from June 15 to July 15 there were 77 cases in the army in the Philippines, 56 of them fatal. Of venereal diseases there were 13,911 cases, an admission rate of 150.41 per 1,000, a bad showing compared with the rate for 1888-1897, the ten years preceding the Spanish war. The rate was lowest in the Philippines, 144.24; in the United States it was 149.96, but in Cuba was 287.28, and in Porto Rico, 309.63. In commenting on these diseases, Major Ebert, Chief Surgeon of the Department of the Columbia, remarks that the habits of the men are not up to the standard existing before 1898, or to what they were under the canteen system now abolished. From the Philippines it is reported that intemperance has increased since the post exchange was abolished. During the year 104 men were killed by gunshots, 46 of them in battle, and 146 men died of gunshot wounds received in battle; 58 men were killed by gunshots inflicted accidentally, suicidally and homicidally. There were 82 deaths from bolo wounds, all, of course, in the Philippines. The health of the army thus appears to have been about normal. The investigations of the army surgeons, and their work towards the prevention of disease continues without cessation. Col. Charles Smart, Assistant Surgeon-General, is on his way to the Philippines to become Chief Surgeon of the division, having been chosen for the post because of his knowledge of cholera and its causes; and it may be expected that the next report of the Surgeon-General will show a better state of affairs in the Philippines than the present one records.

Obituary.—Dr. Elvira Ranier, one of the most prominent women physicians in this State, died last week in her home in Oswego in her fifty-third year. She was born at Coldwater, Mich., and was a graduate of the University of Michigan, consulting physician of the Oswego Hospital, and secretary of the County Medical Society.

Professor B. J. Stokvis of Amsterdam has recently died. He was Professor of Pharmacology in the University of Amsterdam and has been known widely as an investigator and teacher.

Dr. Henry Horace Lynch, who practised in Jersey City for 30 years, but retired 10 years ago, died last week at his home, No. 591 Bramhall Avenue. He had been ailing for some time.

CORRESPONDENCE.

TREATMENT OF MORPHINISM.

To the Editor of the Medical News:

Dear Sir—I have been requested to write to the Medical News, giving some of my personal experiences with hyoscine in the treatment of alcoholism and morphinism. When hyoscine was first introduced, several physicians became very enthusiastic supporters of its claims as a substitute for morphine, and as a cure for the craze for alcohol. I made several very careful tests of its effects in over a dozen cases of morphinism, and also in a number of alcoholics, then abandoned it as a very unsafe and dangerous drug.

It was given in small doses often repeated, also in large doses at longer intervals, but the effects were practically the same. In each instance the morphine was withdrawn within a few hours, and the consciousness of suffering was obliterated after the first or second dose of the drug was given. In each case delirium with hallucination and delusions of a mild type began after the second or third dose was given, and continued from two to four weeks. Most of the time the patient had stupor, muscular trembling and general relaxation with excessive sweating and irritation of the bowels. The usual withdrawal symptoms noted in morphinism, marked by extreme exhaustion, relaxation and cerebral irritation, were present only in a modified form. The insomnia from hyoscine was less prominent, and the stupor more prolonged and associated with muttering., also with periods of collapse and profound indifference. The muscular prostration was intense and long continued, and the mental feebleness was apparent weeks after the active symptoms had subsided. In each of these cases convalescence was protracted, and the neurotic derangements which followed seem more pronounced and difficult to control.

Hyoscine has been and is used freely in the quack's specifics and "quick-cure asylums," and when the patient becomes delirious and the symptoms alarming, morphine is given, concealed, and the hyoscine withdrawn. The patient is then told that he is cured and a preparation of strychnine, hyoscine and morphine is given as a tonic for him to continue after leaving the asylum. Later the patient finds it impossible to give up this tonic, then relapses.

Morphine-takers in a comatose, semidelirious state frequently come under my care after having been treated by irregulars or by some specific taken at home. The form of the delirium and the dilated pupils and the peculiar hallucinations are strong indications that hyoscine has been used.

As a substitute for morphine, I believe it to be more dangerous and uncertain than bromide of sodium. From the use of both of these drugs delirium and dementia are almost certain to follow. From my experience it is dangerous treatment to substitute one narcotic for another. In morphinism there are enfeebled brain-centers and profound anemias, both local and general, that are not curable by the use of other equally dangerous drugs. The conditions which follow the withdrawal of morphine are easily controlled in the proper surroundings by many simple and harmless remedies, and it is difficult to understand why alkaloids like hyoscine and others of this nature should be used to accomplish what can be done with less risk and danger. I believe hyoscine to be a dangerous drug in morphinism or alcoholism, and that any extended use will confirm this statement. A prominent physician, a morphine-taker, who tried to cure himself by large doses of hyoscine, died suddenly, and there were reasons for believing that the hyoscine was an active cause. A few fatal cases of this kind have come under my observation, and while it is impossible to say that hyoscine caused death, there are reasons for believing that it was an active factor in the final collapse.

T. D. Crothers, M.D.,
August 20, 1902. Hartford, Conn.

THE TREATMENT OF THE MORPHINE DISEASE.

To the Editor of the Medical News:

Dear Sir: Thirty years' experience in the study and treatment of the morphine disease prompts me to protest against a method—so-called—of treating it with "massive doses" of hyoscine hydrobromate, as presented in a paper lately published in the Medical News. It is surprising that one of Dr. Hare's ability should approve of such a plan. It is evident he has much to learn in the treatment of morphinism. There is no place in sound therapeutics for such practice. It is irrational, unscientific, inhumane and dangerous. I warn the profession against it.

J. B. Mattison, *Medical Director,*
Brooklyn Home for Narcotic Inebriates.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

SARCOMA OF TONSIL—PLACENTAL HEMATOMA IN THE DOG—OPERATIONS DURING PRIMARY ETHER NARCOSIS—LOCATION-SENSE IN THE SKIN.

The German societies have been engaged with the following topics, many or all of which possess considerable merit.

Von Heinleth, at the Aerztlicher Verein München, read a paper on "Sarcoma of the Tonsil." Three years ago a large tumor of this variety had been taken from the right tonsil, after the method of Krönlein. The patient is still without recurrence, and was therefore presented to the society as an example of permanent cure. About three months after the patient was first presented to the society, namely, about a year ago, a tumor appeared upon the opposite side. By the middle of August of that year the tonsil enlarged considerably and began to give symptoms. Upon examination on September 1, the tumor presented considerable size, a mass of hard consistency, a smooth surface, with a pale mucous membrane in contradistinction from the bluish-red color on the right side. There were no glands which could be distinguished as enlarged. The clinical diagnosis was confirmed by a microscopical examination; namely, sarcoma of the round-cell type. Inasmuch as the development of the tumor did not occur in or about the region of the first growth, it seems possible to consider this not a recurrence, but probably an independent neoplasm, due perhaps to a special predisposition on the part of the patient. The author could not be certain whether, after a long-standing right-sided pneumonia, a left-sided pneumonia appearing should be considered as a new disease or as a secondary manifestation, dependent upon the former. In his previous dissertation before the society he advanced the proposition that when the disease has progressed to considerable limits only the extensive extra-oral methods of operating, for example, those of Krönlein, Mikulicz, Brehn and others are available to produce any good results. If, however, early in the disease attempts are made at removal the intra-oral methods—for instance, that of Alexander Fraënkel—are advisable and available. In accordance with this principle, after a previous tying of the external carotid artery he removed the tumor, with a number of hard glands in close proximity to the blood-vessels. When the left side was operated on in this same manner, the wound healed promptly, and without any complications, which was not the case with the right side. Thus after 11 days the patient was discharged with a healed wound. Nine months have since passed without any signs of a return on the left side; therefore it is to be hoped that the patient will continue without any further trouble of this nature.

Bonnet, at the Greifswalder medizinische Verein, June 7, 1902, read a paper on "Placental Hematoma in the Dog." The hyperemia of pregnancy in the mucous membrane of the uterus is to be considered as a nervous manifestation and continuation of the hyperemia of the menstruation. In this latter function there always is some bleeding into the mucous membrane and cavity of the uterus. Likewise, during pregnancy, similar bleeding may very well occur, and may vary apparently in localization and degree in different animals, frequently taking the form of intraplacental hemorrhages, appearing as a green or brown margin along this organ, or as a simple pocket of varying size. During the formation of the placenta not only are new vessels formed, but the old ones are elongated and enlarged. There is likewise the same process within the arteries and veins of the mucous membrane. They lose their muscularis, and become vessels with hardly any wall to speak of. Through retrogressive changes of the muscular coat, the motor elements of the circulation of the blood in this very much widened stream within the placenta are relegated to the muscular elements of the uterus and of the mesometrium. The general result of this is a manifest slowing of the total rapidity of the blood-current, even to a mild form of stasis and a moderate degree of edema, and occasionally greater or less bleeding into the placenta. These therefore frequently lead to the formation of a greenish color sometimes seen in the placenta, consisting chiefly of the coagulum which lies between the layers of the placenta and the choreon. The peculiar color is due to the unusual changes within the coloring matter of the blood, perhaps to hemachlorium, as described by Mickel. Small masses of hemoglobin and of coloring matter are taken up by the epithelium of the chorion, and afterwards may be used by the embryo as a source of iron for its blood. These little hemorrhages might therefore be described as embryotrophic hematomata.

EHRICH, at the Rostocher Aerzteverein, July 12, 1902, read a paper on "The Advantages of Operating during the Primary Ether Narcosis." He described a procedure which has been used in his surgical clinics, especially in the Polyclinic, of operating during the first period of narcosis with ether. The method, which was originally described by Sudeck, rests upon the observation that after a few inhalations there is a temporary narcosis, during which in most patients little or no pain-sense is present, although the tactile sense is not interfered with. He regards this procedure as a worthy increase in the number of our methods of anesthetization, and deems its application suitable in those cases where ordinarily a local anesthesia would be desired, and where the production of deep anesthesia would hardly be justified. Up to the present time he has employed it for very brief operations like the opening of boils, the removal of carbuncles, extraction of teeth, reduction of fractures and application of painful dressings. Sudeck, however, has employed it for longer operations. The technic is exceedingly simple and demands no special practice. About 30 cubic cm. of ether are poured into a mask, preferably a Juillard, and after a few deep inhalations by the patient the cut may be made. If the respirations are not deep it is necessary to wait a little longer. The time necessary for it is surprisingly short, as is also the time for recovery, so that as soon as the dressing is applied the patient is normal again. Up to the present time, the dangers of deep narcosis in the slight operations have exceeded by far the dangers of the operations themselves; and this method is so simple and safe that it deserves universal adoption. After 60 experiments with it he has found only two individuals, and these nervous women, who became intoxicated with the ether after one or two inspirations; while on the other hand, in muscular men, the result was prompt and satisfactory. Although Sudeck regards the result as directly due to the action of the ether, Ehrich thinks that there is a psychical influence upon the patient as well, since the effects are decreased by suitable explanation and encouragement.

VON FREY, at the Physikalisch-medicinische Gesellschaft zu Würzburg, July 10, 1902, read a paper on "The Sense of Locality in the Skin." A previous communication by this author to the society as to the testing of this sense showed that not only one, but actually three organs are to be distinguished; namely, those respectively which appreciate simultaneous, successive and direct stimulation. The present paper was particularly concerned with the first of these three organs. The experiments were carried out by means of two electrical magnets, which placed two levers upon the skin at once. The result is that when two neighboring points are approached—that is, on the hairy parts of the body—two hairs could be distinguished only when they were 20 mm. apart, for example, on the forearm, and then only under the most favorable circumstances. The rule is to have the distances between them 100 mm. If two points are irritated at the same time the impressions seem to reinforce each other; that is to say, it is possible to find that by simultaneous stimulation an increase occurs in the sense. This increase is present also when the two points are so far removed from each other that it is possible to distinguish them separately. In cases where distinction between the two points is possible, in patients of refined sense, a curious fact is that the individual cannot tell whether the direction of the touch is lengthwise or crosswise of the limb.

BYWAYS OF MEDICAL LITERATURE.—X.

MEDICAL STUDENTS OF OTHER TIMES.

THE medical student of the present day, who begins his medical studies under such excellent auspices in magnificent buildings where everything is provided for comfort and facility of education, can scarcely realize how great were the difficulties under which the medical students of only a few generations ago labored. There was even a prejudice against students of medicine among the populace, partly founded, perhaps, on the not altogether unjustifiable grounds that medical students were noted for more devil-may-care pranks than even the generality of students. Sometimes this feeling led to open rows in which more than blows of the hand were exchanged. Even fatal results were known to follow these quarrels.

When David Hosack, known to New Yorkers as one of the distinguished professors of medicine in the metropolis during the early part of the nineteenth century, and afterwards as a benefactor of the Academy of Medicine, began his medical studies, one of his first experiences was in such a row, more violent even than usual. His son, writing the biography of his father for Dr. Gross's Biographies of American Medical Men, says: "He had scarcely begun his studies before the celebrated 'Doctors' Mob' occurred, which threatened serious results to those concerned. It arose in consequence of the imprudence of some of the students carelessly pursuing dissection in the building upon the site since occupied by the New York hospital. This mob caused many of the professors to absent themselves from the city, and others to seek shelter in the city jail. Mr. Hosack, with the rest of the students interested, learning that the mob had seized upon and demolished the anatomical preparations found in the lecture-room * * * repaired immediately to Columbia College, with the view of saving such specimens as were to be found in that institution. Before reaching the college, however, and while on his way in Park Place, he was knocked down by a stone striking him on the head; he would in all probability have been killed had it not been for the protection he received from the neighbor of his father, Mr. Mount, who was passing at the time and took care of him."

Verily, medical student life in those days was something more than grind and cram for exams, with an occasional quiz and recitation to keep up the excitement.

PLAYWRIGHT—EDITOR—PHYSICIAN.

The late Lord Tennyson's physician on the Isle of Wight is himself a literary personage of no mean celebrity. His name is G. H. R. Dabbs, and besides devoting himself to what is probably the busiest practice on the island, he sometimes drives 22 miles to see patients, and has the reputation of being very faithful in keeping professional engagements; yet he succeeds in finding time to write plays and an occasional novel, to act as member of the editorial staffs of two papers, and to drop into poetry when the muse inspires. Then he fills up his leisure with amateur theatricals. Not long ago a representative of a London paper wrote of him:

"When I dropped in on the doctor on a recent afternoon, he had just done his 40 miles, and written a three-column article *en route*.

'Well,' I said, 'you seem as fresh as paint, Doctor, but how you find time to carry on three or four professions as you do is a mystery.'

'There is no secret about it,' replied the cheerful doctor, who is as wiry as a barbed fence. 'I get up at four o'clock every morning, and utilize every moment of the day.'

'Four! How much sleep do you allow yourself?'

'Six hours. I have a desk in my bedroom, and from four to eight I write my plays, books, and articles; the rest of the day I devote exclusively to my professional practice.'

'The life of the country doctor in the Isle of Wight has always been a hard one. When I settled here there was only one miserable railway—the station at Newport, where I resided, resembled a wooden matchbox—and to fulfil my obligations I had to employ carrier pigeons. If I had six villages to visit, I took six pigeons with me in my carriage, and when I had finished the patients at one village I used to tie my prescriptions to a leg of a pigeon and toss the bird in the air. It at once flew home, where it was received by a man in the stable—a bell rang when it entered the loft—who, possessing himself of the prescriptions, took them to the chemist. The chemist then made up the medicines and sent them out by the carrier the same evening. I used pigeons as messengers for three or four years, when they were supplanted by the telephone and the telegraph. To-day things are different, of course, though a doctor in the island still has scant leisure. The distances are so great that one has to rely almost entirely on horseflesh as a means of getting about. I keep five horses, which is not one too many considering that I am often compelled to undertake journeys involving rounds of close upon 50 miles.'

'Then you must have had some exciting experiences.'

'I've broken 13 axles up to date, and sustained every kind of smash that can be conceived, from concussion of the brain down to a broken thumb.'

'How can you cross the island when the snow is on the ground?'

'We have very little snow in these parts. In 1881, however, we had a record fall. The snow was so deep that we were without letters for 14 days.'

'How did you carry on your practice?'

'I didn't carry it on. The people got well of their own accord.'

'It can't be very pleasant sitting in a carriage for four or five hours at a stretch.'

'You forget that I write large portions of my books while driving,' said the doctor."

In order to facilitate writing, avoid the drafts in his face, and at the same time escape the necessity for constantly saluting passers-by, Dr. Dabbs has had a specially planned carriage built for himself. His experience and the resultant invention may be of suggestive value to some of our country practitioners in the United States, so we give the London correspondent's account of them:

"A familiar spectacle in the island is the dashing by of a pair of spanking horses drawing a strange-looking carriage—a victoria with the hood reversed. Under the hood sits the doctor, perchance reviewing a book or scribbling off a bit of a play—economizing time as he rushes from patient to patient. The carriage, which is his own invention, was designed to enable him to get the maximum amount of air with the minimum amount of draft, and also to save his head-gear. Formerly, when he had an ordinary carriage and faced everybody he passed—he is known all over the island, of course—he had to raise his hat about a thousand times a day, the result being that he required a new hat every week; for, although the crown retained its pristine freshness, the brim, with the constant lifting, was reduced to a state of pulp. Now, however, with his back to the steeds, he is obscured from view, and weekly visits to his hatter are no longer necessary. The victoria is variously described, some of the irreverent natives calling it the 'coal-scuttle,' others the 'booby-hutch.'"

Dr. Dabbs does seem to be able to accomplish an enormous amount of work, and he enjoys excellent health, which he attributes to the open-air driving that his widespread practice compels him to take.

"Some idea of Dr. Dabbs's labors with the pen will be gathered from the fact that he is the proprietor of Vectis, a quarterly magazine, nearly every column of which he writes himself, and also of the Shanklin Gazette, to which journal he contributes five columns weekly. In addition he supplies the County Press with a weekly literary article. His latest play is 'The Dreamers,' and his latest book 'Ugly'—stories told by a hospital dog; and it is interesting to note that with the profits he derives from authorship he helps to maintain a cottage hospital. There is probably no harder-worked man in England than this popular medico. 'The most punishing spell of labor I ever performed,' he remarked in reply to a question, 'was this. When a patient of mine was dying at Hampstead he expressed a wish to see me once every 24 hours, and I managed it in this way: I worked all day long in Shanklin, and left by the 8.40 P.M. mail to London; reaching Waterloo at 3.40 A.M., I drove to Hampstead, and after spending an hour and a half with my patient I hurried to Waterloo, and catching the 7 A.M. train, I was back here for my patients at 11 A.M. This I did for three weeks.'"

MENTAL AND MORAL HEREDITY IN ROYALTY.

Dr. Frederic Adams Woods of Harvard University has had a very informing series of papers on this subject in the August, September and October numbers of the Popular Science Monthly. The English Royal family, the Stuarts, the Hohenzollerns and the Hapsburgs have all been followed in their pictures for many generations, and in the histories of their individual careers. Some of the material thus deduced is very suggestive for those who are interested in the heredity of dispositions as well as of peculiar features.

One of the most striking passages in the series of essays is that which is concerned with the Hapsburg lip. A series of illustrations are given in which the great swollen, protruding lip of the Hapsburgs is exhibited in many generations. Altogether it seems that in various degrees of intensity this undesirable feature can be traced through no less than 18 generations of the Hapsburg family, making its appearance in at least 41 of the various descendants. It is first recorded in history as occurring in Zymburga, who was born in the latter part of the fourteenth century and became the wife of Ernest, the second Patriarch of the house of Hapsburg. In its latest manifestations it appears at the present day, though with somewhat diminished force and modified form, in the young King of Spain. This is a remarkable instance of the course of heredity in perpetuating a physical trait, and is often quoted as an instance of prepotency, the male line being able to transmit a deeply rooted though comparatively unimportant peculiarity without the features from the maternal side having any influence in counteracting it. It is a very curious reflection that this large ugly lip was coincident in most generations with the neurosis which characterized the House of Hapsburg in many generations. It is curious, too, that occasionally the peculiarity has jumped a generation and then reappeared in characteristic form. In the more recent generations it seems to be less frequent than formerly, and therefore appears to be running out of the stock. A study of the charts of descent shows that it very frequently happened that those chosen by fortune to be the progenitors of the head of the house in successive generations possessed this special peculiarity to a marked degree. Coincidence then would seem to have something to do with the preservation of the remarkable feature.

The whole question shows the importance of the influence of intermarriage. Recent rumors with regard to the young King of Spain would seem to indicate that he possesses some of the peculiar ways and uncontrollable habits of his Hapsburg relative, the late Crown Prince Rudolph of Austria. The young King's mother, through an Austrian archduchess, seems to be an eminently sensible little woman, and yet the mental peculiarities of the Austrian blood are coming out in the next generation. Observations along these lines are mainly in the hands of physicians, and it is unfortunate for biological science that more of them are not regularly tabulated by family physicians, especially when several generations of physicians occur in the same family.

PREPOTENCY IN POLYDACTYLOUS CATS.

It does not seem exactly respectful to discuss the inheritance of a superfluity of toes in cats just after reviewing the question of the inheritance of peculiarities in royal families. But nature and biology have these democratic juxtapositions, and we must put the blame on them. Mr. Harry Beal Torrey of the Zoological Laboratory of the University of California has been studying a series of cats in the possession of a Los Angeles family, many of which are furnished with an abnormal number of toes on both fore and hind feet. All are descended from a stray female of unknown pedigree, which possessed 22 toes, six instead of five on each fore foot, and five instead of four on each hind foot.

This female, crossing with normal males, has always perpetuated her peculiarity to a certain extent. In one litter one of the kittens had 20 toes, instead of the usual 18. In another two of the kittens had over 20 toes. Mr. Torrey has had under observation a female of the third generation from this cat, most of whose progeny have more toes than normal. One of the kittens has 25 toes, two have 24, one of them having seven toes on each fore foot, and more than 50 per cent. of descendants are abnormal in their number of toes. It seems clear that the total number, as well as the number on each fore and hind foot, is increasing from generation to generation.

It is well known that tendencies to the possession of six fingers and six toes in human beings are distinctly hereditary. One family of six-toed individuals has been traced through four generations. In human beings it has been noted that these peculiarities are more liable to follow the female than the male side of the house. In Mr. Torrey's observation there is a very curious and interesting feature in this respect. There seems to be a very distinct and extremely remarkable prepotency of sex. The male cat with 25 toes, when crossed with normal females, had no influence on the number of toes in the offspring so far as information could be obtained. This result is all the more surprising because in three generations the females have actually acquired the power of transmitting superfluous toes in even greater number and to more and more of their offspring. This subject is, of course, an extremely interesting one from a biological standpoint, and it suggests some of the possibilities of observation on domestic animals that are constantly opened to those who have eyes to see.

GRATUITOUS MEDICAL SCIENCE.

A young man who writes a novel or two and shows his ability to sling the King's English in essay form is sometimes asked to write a column for a weekly paper. As sure as fate, when things political and literary are dull, he will feel himself called upon to write medical science (save the mark!) for the many. Oh, the poor many, how sincerely they would have to be pitied only that they do not take all the medical advice thrust upon them! The last offense of this kind turns up in a recent Sunday issue of the New York Times, in the department called "The Looker-On." Usually the Times is not guilty of indiscretions of this kind, which makes the present offense all the more glaring. Consider this as a serious contribution to progressive medical science: "Another article of diet, famed in song and story and now falling into merited disrepute, is bread and milk. Milk is about the most dangerous of the undeniably wholesome foods. It cannot be taken with a certainty of good results unless it is taken absolutely alone and has a chance completely to disappear from the stomach before anything else is eaten or drunk. Bread and milk in combination is not a food. It is at best a burden, at worst a poison. To feed it to children, as all mothers used to do and as some mothers still do, is to assail their health at its vital point.

"The worst thing about improper food and drink is that it, like the protective tariff, does its damage usually in a place remote from its point of initial contact. You eat or drink something you ought not; you persist in doing it; you fall ill; the doctor comes and finds that you have rheumatism or pneumonia or typhoid fever. And it never occurs to him or to you that the real reason for your illness is that you have weakened the resisting power of your whole system by what you have put into your stomach."

There was a time when everyone who wrote at all thought he could write a pretty theory about electricity and the beauties of chemistry, but that sort of thing has fortunately gone out of fashion with the real progress of science, and theorizing is left to scientists. Let us hope that the same respect for medicine will soon come to be the order of the day.

SOCIETY PROCEEDINGS.

ACADEMY OF SURGERY OF PHILADELPHIA.

Stated Meeting, Held October 6, 1902.

The President, Richard H. Harte, in the Chair.

Falls Upon the Buttocks.—Dr. Oscar H. Allis said that in some cases of falling upon the buttocks there was immediate helplessness, with severe pain upon movement, while in others the patient was fairly comfortable from the start and finally able to move about with more or less facility. He spoke briefly of four points: (1) Cases followed by helplessness; (2) cases followed by recovery; (3) pathological conditions found in cases coming to autopsy; (4) operative treatment. Under the first head Dr. Allis gave brief notes of three cases in which falls were followed by symptoms of fracture of the neck of the femur. No attempt was made to effect cure in these patients, they being made as comfortable as possible. All remained helpless during the rest of their lives, from four to six years. To show that these results were not the fault of the treatment, three similar cases were detailed under the second point. The injury and signs of fracture were the same as in the first three cases, but the results in each were different in that each patient was afterwards able to walk and had a fairly useful joint. No particular attention was paid to the thigh, as in the first series, the only efforts being to make the patient comfortable and avoid the presence of pressure-sores. As possible explanations for this disparity of results in apparently similar cases, Dr. Allis suggests: (1) The springing up of osteophytes, which was proven to be true in Case I, from which specimen was shown; (2) the fall may produce concussion of the joint, a mild subacute arthritis following, areas of absorbed cartilage with denuded bone being present; (3) the sciatic nerve may be caught, though Dr. Allis knows of no evidence to prove this; (4) the ligamentum teres may be torn, although there is no basis for a positive statement as to this condition. As to treatment there is little to offer. If operation is done it should be when indicated by the persistence of pain for more than one or two months. If the patient's age and strength permit of this procedure it is probably the best treatment and is justifiable.

Dr. R. G. Le Conte said that one case under his observation would help bear out the statements made by Dr. Allis. The patient was a woman who one year before had fractured the neck of the right femur. Since that time she had been helpless and in great pain. She had also suffered for years from rheumatic gout or arthritis deformans. Ten months after the injury was received Dr. Le Conte operated with the view of freshening the ends of the bone and inserting a peg. He found that the neck of the bone had been almost entirely absorbed and the head had areas of eroded surface. In view of the condition present and the helplessness of the patient the head of the bone was excised. At the end of six weeks the patient was about on crutches. She is comparatively comfortable, except that the knee of the same side is exceedingly painful from the other condition named. The pain in the hip was entirely relieved by the operation. It is a question if operation in these cases is of much benefit as regards locomotion.

Dr. R. H. Harte said the subject under discussion was of great interest to every surgeon. Cases of intracapsular fracture do run different courses as portrayed by Dr. Allis. For this there must be some definite cause. The diagnosis is reasonably easy, being made from the ordinary symptoms of shortening, eversion, etc., and is undoubtedly correct in both classes of cases. The routine treatment by rest, extension and immobilization is also the same in all. Yet in some cases the patients are comfortable, while in others they scream with pain whenever the leg is extended. Dr. Harte explains our ignorance as to why such different results follow by saying that we cannot tell what takes place in the joint at the time of injury. In some the bone simply breaks straight across, while in others it is comminuted. This may cause perforation of the joint or irritation of neighboring tissues by a spicule of bone. In all cases there is induced a greater or less degree of arthritis. This is accompanied by pain, as when it affects the wrist or other joints, and is probably one of the greatest reasons for pain in some of these cases. As to treatment, operation is justified if pain and helplessness persist after a certain length of time. This consists in resection of the head of the bone. In this class of patients there is probably more danger from the anesthetic than from the operation itself.

Dr. W. J. Taylor considers the pain in these cases as largely due to arthritis. He lately had charge of an old lady of eighty-two years who received an impacted fracture of the neck of the femur with 2½ inches shortening. A skiagraph showed the presence of a spicule of bone near the fracture, but there was no evidence as to whence it had been derived. This patient had at no time any pain whatever. She was kept in bed three weeks with light extension upon the leg. She is now able to walk about and even to go up and down stairs. There was evidently no true arthritis in this case.

Dr. G. G. Ross mentioned the case of an old lady near his home who sustained an intracapsular fracture of the femur when she was one hundred and two years of age. She recovered and was able to walk, and lived until the age of one hundred and six years.

In closing, Dr. Allis said he would like an explanation of where the osteophytes came from in the specimen he exhibited. Dr. Harte said they may have come from the periosteum of one side which had not been destroyed.

Amputation of a Leg Under Intraneural Anesthesia.—Dr. John H. Gibbon reported this case. The patient was a man of fifty years who had a tuberculous ankle-joint. After examination it was decided that efforts to save the joint would be useless, but the man was told that incision into the joint was to be made as a last resort for confirming this opinion. The sciatic nerve was then bared under local anesthesia and No. 1 Schleich's fluid injected into it. The same process was then used on the anterior crural nerve. It was thought that anesthesia would be immediate. It was not, and after waiting four or five minutes chloroform was sent for. Before it was used, however, the man said he felt a queer sensation in the leg, and it was found that sensibility was diminishing. An incision was then made and the diagnosis confirmed. The patient felt this, but said it did not hurt. While an attendant engaged him in conversation a circular cuff was made and the leg amputated. When the patient heard the saw he said, "He is not taking off the leg now, is he?" His question was parried, and he did not know that the leg had been removed until he was in the ward. Regarding the question of shock, the temperature was never below normal, and the respirations only increased two per minute. The pulse rose from 64 to 112, Dr. Gibbon explaining this by the fact that through faulty technic the exposure of the sciatic nerve was prolonged and caused some slight pain. No pain was felt while the anterior crural was being exposed. The injections, after exposure of the nerves, were made paraneurally and intraneurally. The wounds healed promptly, and the patient was out of the hospital in less than one month.

Dr. R. G. Le Conte, who was present at the operation, said he could confirm Dr. Gibbon's statement that the man suffered no pain during the amputation. He thought a very probable explanation of the rise in pulse-rate was that a perceptible quantity of cocaine was used and absorbed. He mentioned the case of a man from whose scalp he removed a wart after injecting a two or four per cent. solution of cocaine. Exhilaration followed, and when the patient soon afterwards joined a party of friends to go on a coaching trip they all thought him to be drunk. Therefore, Dr. Le Conte thinks the quickened pulse in the case under discussion was due to cocaine and not to any nervous phenomenon.

Dr. J. K. Young asked if there was any danger to the integrity of the nerve in the use of this method.

In closing, Dr. Gibbon said that exhilaration was one of the first effects of the use of cocaine, and he had had a case similar to the one related by Dr. Le Conte. He had then used a four per cent. solution, however, and did not think that a solution of one-fifth of one per cent. would have this effect, although it might when injected into the nerve itself. The patient had shown no exhilaration after the injection. In answer to Dr. Young's question he said that Drs. Crile and Matas had noticed no untoward effect upon nerves after injection, and there was no evidence of it in his case while he was under observation.

Gall-stones in the Common Duct.—Dr. Robert G. Le Conte reported an interesting case. The patient was a man of thirty-four years, who during four months had six attacks of abdominal pain, nausea, vomiting and jaundice, and had lost 30 to 40 pounds in weight. When he entered the hospital he had a leucocyte count of 11,900. Under the influence of rest, light diet and sodium phosphate his condition improved and he left the hospital, but only to be readmitted later during another attack. The leucocytes then numbered 10,200. Operation revealed a small thickened gall-bladder containing 200 to 300 stones. There were also some in the cystic duct and two in the common duct. By manipulation one was pushed out through the gall-bladder, but an incision into the duct had to be made to free the other. The opening in the duct was then partly closed by one catgut suture, a gauze drain inserted, and a tube drain inserted in the gall-bladder. The former was removed after 48 hours, the latter four days later. Recovery was uneventful. The small sinus which remained became infected after the patient left the hospital, but healed under appropriate treatment. At this time the patient said he often vomited about midnight, there being no nausea. Two points in this case were considered of interest: (1) The closing of the common duct by suture. Le Conte advocates doing this when it is possible. When the duct is thickened, friable, and difficult of access he would not attempt suture, as it will probably close itself. (2) Should all the adhesions encountered in such a case be broken up? When the bile is sterile it probably makes no particular difference how this question is answered. But when there is a possibly infected bile and adhesions are present around the gall-bladder, pylorus, duodenum, etc., only enough should be broken up to allow the operator a sufficient field to work in, as they help in limiting infection if it occurs. It is probable that some of these adhesions caused the curious vomiting mentioned as occurring six weeks after operation. It is thought, however, that they will stretch and cause no further trouble.

In the discussion Dr. Allis said that the question of suturing the duct was a very pertinent one. There is danger of infecting the site of operation by passing through the mucous membrane, even if a very small needle and fine catgut be used. If the duct is thickened the incision will be held in place by packing. Finally, if a part of the incision is left open, all of it should be left open.

Dr. J. H. Gibbon, during the course of his remarks on this subject, exhibited a large and greatly thickened gall-bladder which was removed from a patient a few days previous. The bladder was the seat of beginning gangrene as the result of a large stone which had been impacted in the opening of the cystic duct. The patient's temperature was 102° F., and there was pain but no prominent symptom of obstruction. Rigidity was marked. The leucocyte count was 37,000, a point which helped lead to diagnosis of gall-bladder infection, as the highest count the writer has seen in appendicitis is 33,000. Operation revealed a gall-bladder full of stinking pus. The speaker called attention to the similarity between gall-bladder disease and appendicitis. The organ had the same appearance as a diseased appendix; the colon was injected; the omentum was anchored over the seat of inflammation. An attempt to ligate the cystic duct was made, but the bladder pulled loose during the effort. The cystic duct bled furiously and was too rotten to hold forceps. It was packed with gauze. The patient was showing signs of recovery. The leucocytes dropped to 12,800 but again rose to 20,000. This was thought to be due to reparative processes.

Dr. W. L. Rodman said that Dr. Le Conte's case was an interesting one. He thinks that the question of suturing the common duct was pretty well settled by Fenger, who demonstrated that it need not be closed in all instances. Closure is not necessary so long as the bile is aseptic. Suture of the common duct is one of the most difficult tasks encountered by the surgeon. Lately he has seen Mr. Robson operate and suture the duct with great facility. This was brought about by an incision in the right semilunar line, curved somewhat at the upper end. With a bag placed under the patient's back, the liver and gall-bladder were brought into the field of operation in a most perfect manner, and the common duct was comparatively easy of access.

Intestinal Obstruction.—Dr. W. T. Taylor reported a case of intestinal obstruction due to Meckel's diverticulum and appendicitis. The patient was a female of twenty years, who had had no bowel movement for six days, and had fecal vomiting. There had been a similar attack one year before. There was no special abdominal distention. The omentum was found adherent to the bladder and appendix. There were many adhesions of the appendix, but no evidence of present trouble in that organ. The adhesions apparently accounted for the obstruction. Search, however, revealed at one point distention of the small intestine, and obstruction due to a remnant of Meckel's diverticulum was found. At a distance of 32 inches from the cecum was a single fibrous band, one-eighth inch in diameter and having no lumen, which united two loops of intestine, passing through the mesentery. There had evidently been constriction for a long time, but strangulation was recent.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of October 1, 1902.

The President, Dr. Robert T. Morris, in the Chair.

Dr. Alexander Lambert, the retiring President, introduced the President elect, Dr. Robert T. Morris, with a few well-chosen words.

President's Address.—Dr. Morris said that as 20 years ago he left Bellevue Hospital he felt disposed at this time to be retrospective. Among the changes noted in that time was the great advance made in the administration of anesthetics by special anesthetists, and the introduction of cocaine for local anesthesia. At the beginning of the period referred to organotherapy had not been thought of, and the X-ray was, of course, not known. In the old days at the hospital there were only one or two men on the staff who believed in antiseptics, and when one of their number, thoroughly trained in Germany, began the practice of antiseptic surgery he was ridiculed by the others. In those days at the medical society meetings it was the custom to listen to the papers with great show of respect and to refrain from public unfavorable criticism, although much of the latter was indulged in afterwards in private. Fortunately in more recent years the tendency had been to discuss scientific contributions vigorously and in a straightforward manner, though impersonally.

The specialists of that day were chiefly practitioners confining their practice to diseases of the eye, ear, nose and throat. Gynecology was only just beginning to be recognized as a specialty. A few years later it became a marked specialty, and still more recently reverted back to surgery. On the other hand, orthopedic surgery had branched off more and more from general surgery. The rapid evolution of specialties had necessarily led many to become specialists without being properly equipped therefor.

Concerning the moral right of those in general practice to undertake special work when there were many specialists at hand, the speaker said that this was a complicated subject, but the statistics available showed that, in certain lines at least, such practice had no moral justification. For example, a surgeon in a neighboring State, who boasted that many practitioners in that State were not afraid to do abdominal operations, had reported from these sources 163 abdominal operations, with 102 recoveries and 61 deaths! This large death-rate was contrasted by the speaker with the three to seven per cent. of deaths reported by experienced operators in that field. Dr. Morris thought no general practitioner had a moral right to do such practice unless with the deliberate intention of devoting himself to special work.

Reference was then made to the modern tendency in the profession to commercialism. He thought many physicians were too modest in their demands for remuneration, and insisted that if large fees were demanded and the work done made at the same time of proportionate value, the public would be quick to appreciate this and respond accordingly. The public did not appreciate the motives prompting the charging of small fees, and were disposed to look upon it merely as a weakness. While specialists filled a most important sphere, the general practitioner must always be as necessary, and must be thoroughly trained and educated, so that when special skill was required he would be "the one who knows who knows." The charging of large fees, the rendering of bills at stated intervals and insisting upon their prompt payment, if need be by legal process, he believed to be thoroughly professional and right. The laborer was worthy of his hire; moreover, many of the experienced and charming physicians of the older school who looked askance upon this commercial tendency were the very ones who, having been deprived for years of their rightful compensation, were not in the position at the present time to pay for special apparatus and special skilled assistance such as they should have in order to properly carry on the modern practice of medicine. It was another matter, however, to indulge in the practice that had recently grown up in the West, *i. e.*, the division of fees between specialists and the physicians referring cases to them. There was only one word which properly described this, and that was "collusion." If, however, the fees were divided with the knowledge of the patient it was entirely different. This practice of dividing fees would never appeal to the best men.

It was reassuring to note that there had been in recent years no increasing tendency to advertise, even though one could be assured of a speedy competence by advertising in the daily press and living up to the claims made. There was a distinct tendency at the present day for the public to patronize those physicians who were most scientific and most thoroughly equipped for their work. There was a better *esprit de corps* noticeable in the medical profession, and a society like that of the alumni of Bellevue Hospital was a potent factor in fostering this spirit. This tendency had led to the presentation before this society almost uniformly of papers of high scientific character, and had elicited fair scientific criticism of these contributions.

Volvulus as a Cause of Intestinal Obstruction, with Report of Three Cases Successfully Operated Upon.—Dr. John F. Erdmann presented a paper on this subject. He quoted the article of Dr. C. L. Gibson with regard to the frequency of volvulus as a cause of intestinal obstruction, the relative frequency in the two sexes and the results of operation. Volvulus usually occurred in mature life, the average age being forty-five years. Shock was not usually evident in volvulus until late, and often two or more days would be consumed in making the diagnosis. The onset was usually indicated by pain. If defecation were possible the part of the bowel below the volvulus might be expelled. The treatment was generally operative, although in recent years some results had been secured by placing the patient on one side for a time and then having him roll suddenly to the other side. The difficulties of this method were obvious. If on opening the abdomen volvulus were present, there would be found such enormous distention of the intestine as to necessitate the employment of some means for securing the escape of the gas. This was generally best accomplished by the use of the rectal tube. In his first case, after this had been done, anchoring sutures were taken in three situations. He did not believe that plicating the mesentery was of benefit in preventing recurrence. He did not believe that with the atonic overdistended sigmoid primary resection was a good means of preventing recurrence; it should be left for a secondary operation.

Case I.—The patient was a male, forty-three years of age, first seen in consultation in July 28, 1899, four days after the onset of abdominal pain. Various purgatives had been given without any result. The man's temperature was 99.5° F. He was at once removed to hospital with a diagnosis of volvulus. A very long incision was necessary because of the great distention. The twist was from left to right, and was situated opposite the fourth lumbar vertebra. Considerable difficulty was experienced in reducing the twist, but after this had been accomplished a rectal tube was inserted and the gas expelled by manipulation. The abdomen was closed without a drain. On the two following days there were numerous passages from the bowel. August 13 the patient was discharged "cured."

Case II.—This patient was a woman of forty-one years, with a strangulated ventral hernia. The bowels had been absolutely constipated for three days and there was constant vomiting. The pulse was 76 and the temperature 100° F. Owing to the bad condition of the patient the operation was done under spinal anesthesia. Two loops were found, one of which was gangrenous and twisted upon itself from left to right. It was held by a band, which was untwisted and resected without the patient's experiencing any pain. On the tenth day she suddenly went into collapse, but was resuscitated and thereafter made an uneventful recovery. The distention following the volvulus was the cause of the strangulation of the ventral hernia.

Case III.—The third patient was a male who, when first seen, was in a state of mild shock. A twist of 180° of the sigmoid from left to right was found. There was no great distention, and the twist was easily reduced. Some fluid was found in the peritoneal cavity, and inquiry elicited a history of tuberculosis. On the ninth day the wound suddenly broke open on coughing, and a coil of intestine, six inches long, protruded between the recti. This was reduced and the wound again coaptated. After this recovery was rapid and uneventful.

Discussion.—Dr. C. C. Barrows said that he had had no personal experience with volvulus, and had been under the impression that it was a much rarer condition. He was particularly interested in the case in which the volvulus existed within the sac of a reducible hernia. He thought this might readily occur where the hernia was manipulated by the person in the effort to reduce the hernia from time to time. Dr. Erdmann was to be congratulated on the successful issue in these cases.

Dr. William J. Chandler of South Orange said that he had had a number of cases of volvulus, but in most of them the duration of the volvulus had been so great that a bad result was to be expected.

Dr. Brown said that in a case of volvulus which he had seen, after various other measures had been tried without avail a siphon of Vichy was brought into requisition, and injected into the rectum, with the result that the volvulus was quickly reduced.

Dr. Robert T. Morris said that these patients failed very fast because of a saprophyte intoxication from the bowel. He had employed intravenous saline infusion at the outset, before operating, in order to raise the vascular tension and secure the elimination of these saprophytic toxins. This procedure, when done before the operation, greatly stimulated the patient, and placed him in far better condition for operation. A method that had been employed some years ago consisted in suturing the volvulus to the abdominal wall after straightening the loop. This method of Roser was intended to prevent recurrence, but it seemed to him that there was quite as much danger of recurrence because of the enormous distention of the bowel. The introduction of water or gas into the bowel had been employed quite extensively, and with varying results. The cases should be carefully selected for this treatment, and it should only be tried when the patient had been prepared for an abdominal operation. In most cases the method was dangerous because at the point of angulation there was apt to be ulceration or gangrene, or still more commonly, a fragility of the bowel arising from the presence of serous infiltrates. This seemed to him an exceedingly important point.

Dr. Alexander Lambert said that Hemmeter gave, in his book, the proportion of volvulus causing intestinal obstruction as 19 in 1,000 cases, and it was there spoken of as the rarest form of intestinal obstruction.

Dr. Erdmann, in closing the discussion, said that volvulus was found quite frequently in herniæ, but ordinarily it was not sufficient in degree to demand surgical interference. He was inclined to think that many of the cases reported by Dr. Gibson were examples of volvulus within the hernial sac. He recalled having seen two cases at the Gouverneur Hospital, one in a hernia. The toxemia, referred to by Dr. Morris, was usually very evident, and it was for this reason that he had introduced the rectal tube in cases of volvulus of the large bowel. The fragility of the bowel at the point of angulation, as a result of serous infiltration, was also very noticeable in intussusception. If such a condition had been present in Dr. Brown's case the result of the injection would have been a rupture of the bowel and death.

BOOK REVIEWS.

A Brief of Necroscopy and Its Medico-Legal Relations. By Gustav Schmitt, M.D. Funk & Wagnalls Company, New York and London.

This little volume will make a very handy reference book for coroners' physicians and the medical men who have to make autopsies for medico-legal purposes. It is a wonderfully complete compendium of many items of information that are most desirable and that often have to be sought in larger works at great expenditure of time. The brief deserves a place in the library of lawyers as well as physicians, and will be useful to the expert witness who wishes to be prepared for the ordeal.

Cellular Toxins, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughan, M.D., LL.D., Professor of Hygiene and Physiological Chemistry and Director of the Hygienic Laboratory in the University of Michigan, and Frederick G. Novy, M.D., Sc.D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Fourth edition. Revised and enlarged. Lea Brothers & Company, New York and Philadelphia.

The old familiar work on ptomaines and leucomaines has been so thoroughly revised, rearranged and rewritten that it appears in this the fourth edition under an entirely new name.

It is an entirely new book, and one that breathes the spirit of modern investigation from cover to cover, yet couched in the senior author's inimitable style in such simple and practical language that an otherwise difficult and technical subject is made attractive and profitable to the practising physician as well as to the laboratory worker.

Inasmuch as the work is practically a new one, a brief recapitulation of its contents is here given. The four opening chapters discuss the subject of bacteria, bacterial diseases, the chemical products of bacteria, an historical sketch of the bacterial poisons and the bacterial poisons of some of the infectious diseases.

Chapters v, vi, vii, viii and ix take up some of the problems of defense against the poisons discussed, particularly dealing with the germicidal properties of the blood-serums, the alexins, precipitins, lysins, bacteriolysis and the agglutinins, thus leading up to the large subject of immunity, which is discussed from its various sides.

Food-poisoning is fully elaborated in the following two chapters. Nowhere in the English language can there be found so full and so authoritative an exposition as here.

The remaining four chapters deal with more strictly chemical problems which are coming to be regarded as most necessary of solution if any advance is to be made in the study of the complicated changes of disordered metabolism.

From all standpoints this work is to be most heartily commended.

Typhoid Fever. By J. T. Moore, M.D., M.C.P.S., Professor of Theory and Practice of Medicine, Medical Department of Hamline University, Minneapolis, Minn. G. P. Engelhard & Co., Chicago.

This is one of the Standard Monograph Series, and is issued most opportunely for the season when typhoid fever is most frequent. It contains in brief compass all that is important and practical in our present-day knowledge of typhoid fever and is especially complete in the chapters on diagnosis and treatment. The discussion of the Widal test is very thorough and the exact limitations of the diazo reaction are well told.

Transactions of the American Climatological Association. Vol. xvii, for the year 1901.

For a number of years this association has been doing an appreciable amount of very excellent work, and the material here recorded for permanent use constitutes a praiseworthy memorial to the members of this numerically small body of workers.

Climatological papers on Porto Rico, Augusta, Ga., Newport, R. I., Nantucket, New England and Southern California are contributed by Drs. Alden, Coleman, Rives, Williams, Hinsdale, Fisk, and Budge respectively.

The large number of papers on tuberculosis here assembled makes a formidable array of authority.

Gout, nervous disorders and cardiac diseases are also treated of by various writers.

La Guerison de la Morphinomanie sans Souffrance. Par Dr. Oscar Jennings. A. Maloine, Paris.

This is a French translation of Jennings's small monograph on the treatment of the morphine habit.

For a number of years this author has worked conscientiously for the alleviation of this constantly growing class of unfortunates, and his crystallized experience is worth much.

That the average practitioner regards the question of treatment of the various forms of the opium habit in a markedly pessimistic light is not to be wondered at. The task is a monumental one, and for most patients it does not seem worth while. Jennings has elaborated a system founded on practical lines, and much can be gained from his work. He is an advocate of the tapering-off method which many authors condemn. It must be confessed that these latter usually show by their writings a very slight acquaintance with the feelings of their patients. The treatment by "souffrance," as advocated by Jennings, has a great deal to recommend it.

Die Freiheit des Willens vom Standpunkte der Psychopathologie. Von Prof. Dr. A. Hoche in Strassburg. J. F. Bergmann, Wiesbaden.

The discussion of the freedom of the will from the standpoint of psychopathology is certainly a "large order," yet the author has been able to shed some light on the subject, and has given withal a very readable essay which makes a welcome addition to an excellent series, the "Grenzfragen des Nerven und Seelenlebens."

The Study of the Pulse; Arterial, Venous, and Hepatic, and the Movements of the Heart. By James Mackenzie, M.D. (Edin.) Burnley. The Macmillan Company, New York.

For English readers at least, perhaps no other school of investigators has done so much and so well in the study of diseases of the circulatory system as the Edinburgh school. This study is one of the best of its kind.

Begun, some 20 years ago, as the author says in his preface, originally to ascertain the changes in the maternal circulation during pregnancy, the inquiry has broadened out so that it embraced all forms of heart-failure.

As the author has pointed out, our present-day knowledge of the clinical significance of pulse irregularity is not merely imperfect, it is chaotic; and he has most successfully brought a certain amount of orderly information from the confusion.

In the earlier chapters are discussed the determination of the value of symptoms, instrumental methods of examination employed in the research, and interpretation of a sphygmogram.

The author is not one who would relegate the sphygmograph to the physiological laboratory, for he holds that it may be made a most valuable instrument for clinical study, that whereas much that was claimed for it in the days of its introduction has been shown to be illusory, yet rightly interpreted it will yield results of fundamental significance.

Chapter IV, on the movements of the heart in health and in disease, is a masterly summary of a wide topic. Two chapters follow on the pulse; one on examination of the peripheral circulation, and one on arterial pressure. Chapters IX and X discuss pulse irregularity, and, the following four chapters treat separately upon different forms of irregularity, increased frequency, diminished frequency, the pulse in febrile conditions, some characteristic pulses and the relation of the pulse and the respiration.

Part II opens up almost a new field, the pulsation in the veins and liver. The author here presents a veritable mine of useful clinical information regarding the activities of the different chambers of the heart, particularly the auricles. Constitution of the venous and liver pulses, Conditions giving rise to the various forms of the venous and liver pulses, The auricular form of the venous pulse, Paralysis of the auricle and the ventricular form of the venous pulse, Enlargement and pulsation of the liver, The clinical significance of the venous and liver pulses—these are the chapter headings in this fascinating part of the book.

Part III deals with the venous and liver pulses in irregular heart-action.

A certain lack of coherence in the plan of the work, an unavoidable blemish, as the author himself recognizes and deplores, is the only marring mote in this most excellent treatise. The work will repay serious and careful study, and will unquestionably do much to enlighten the busy practitioner in his daily round of duty.

Transactions of the American Microscopical Society. Edited by the Secretary, Henry B. Ward. Vol. XXIII. Twenty-fourth Annual Meeting, held in Denver, Colorado, August 29, 30 and 31, 1901.

The annual reports of this society have always proved most interesting and acceptable. The present volume is no exception to the rule.

While the subjects discussed this year are further from the practical field of medicine than those of 1900, yet a few are of importance in the zoological and botanical domains.

An interesting study in embryology, "The Solution of the Eel Question," by C. H. Eigenmann, outlines the development of our knowledge on this subject. How, when and where eels reproduce has been till within recent years unknown. Aristotle first propounded the question, and from the discoveries of Scopoli in 1777 to the time of Grassi in 1897 facts bearing on the problem have been turned up. At the present time it is known that eels, both male and female, migrate to the ocean during October to January; that these eels probably deposit eggs that are found on the surface of the ocean during the following August to January; that the eels do not ripen in shallow water, but the female at a depth of at least 560 yards; that the eel has a metamorphic stage, and that the young eels enter the streams during spring about two years after their parents entered the sea.

Dr. W. C. Krauss of Buffalo contributes an appreciative sketch of the lives of the Spencers, a family that stands high in the annals of American microscopy.

D. D. Jackson describes a new Crenothrix from water, a related species to the Crenothix kühniana which caused so much difficulty with the Berlin water-supply in 1878.

Geo. C. Whipple and H. N. Parker contribute an interesting paper for those working on the problems of potable waters. It treats of the relation of dissolved gases to microscopic life.

The Curvipes or water-mites, an interesting group to the microscopist, is well handled by Robert H. Wolcott. His paper is richly illustrated, and analytical tables for the species are worked out with elaboration.

The Medical Directory of 1902.

The Medical Directory of New York, New Jersey and Connecticut for 1902 has made its appearance neatly and attractively bound, and full of valuable information for every doctor in any one of the three States. The book is published by the New York State Medical Association. The lists of physicians have been sifted and amplified by careful comparison with certified lists from registers of the county clerks' offices, so that no trouble or expense has been spared by the committee of publication to make every statement reliable. The total number of names contained in the lists of physicians is 13,364, of which 10,606 are in the State of New York, 1,655 in New Jersey, and 1,103 in Connecticut. Of the 10,606 names in the New York State lists, 3,948 are credited to the Boroughs of Manhattan and Bronx, 1,323 to the Borough of Brooklyn, 115 to the Borough of Queens, and 58 to the Borough of Richmond, a total for Greater New York of 5,444, which leaves the number of physicians residing in the rest of the State outside of this territory 5,162.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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SPECIAL ARTICLE.

NOTE ON THE NEWLY RECOGNIZED SUGAR-CONTROLLING FUNCTION OF THE SUPRARENAL GLANDS.

BY C. A. HERTER, M.D.,

OF NEW YORK;

PROFESSOR OF PATHOLOGICAL CHEMISTRY, UNIVERSITY AND BELLEVUE MEDICAL COLLEGE.

IN recent publications* it was shown that extracts of the suprarenal gland injected within the peritoneal cavity of dogs give rise very regularly to the presence of considerable amounts of glucose in the urine. It was also shown that solutions containing the substance known as adrenalin act especially and probably exclusively upon the pancreas by imparting to its cells a stimulus which in some way brings about an increased conversion of hepatic glucose into sugar. The character of this stimulus is at present impossible to define, but it is a striking fact that reducing agents like carbon monoxide, sulphuretted hydrogen, benzyl alcohol and piperidine are much more likely to give rise to glycosuria when applied to the pancreas than are oxidizing agents like chlorine water, bromine water, permanganate of potash, or nitric acid. It was found that hydrocyanic acid, which poisons cells in such a way as to prevent them from taking their share of oxygen from the arterial blood, is capable of bringing on a glycosuria when applied in very weak solution to pancreatic cells. This fact, when considered in relation to the noteworthy capacity of reducing substances to cause glycosuria, strongly suggests that this disturbance in metabolism is in some way dependent on interference with the oxidative activities of the cells of the pancreatic gland.

It may be that the various glycogenetic poisons act chiefly on the nerve-endings in the pancreas. We know that the sugar called forth by the application of adrenalin comes from the liver, and the rapidity with which it appears makes it likely that the hastened conversion of glycogen into sugar occurs through the mediation of the sympathetic nervous system.

At first sight it seemed likely that the various local applications which were followed by the excretion of sugars were comparable in their action to total extirpation, for it seemed that they temporarily inhibited that function of the gland which prevents the excretion of sugar under normal conditions. It was soon evident that such a view is untenable. The proof of this is as follows: If one cuts transversly through the pancreas and duodenum, so that the separated portions of the gland have their only vascular connection through the general circulation, the application of a weak potassium cyanide solution to either portion of the pancreas is still followed by moderate glycosuria. If we assume that the entire gland is really affected under these conditions we must also assume that a portion of the poison passes from the painted end of the pancreas to the unpainted end by way of the general circulation. But it is easily shown that one can inject into the femoral vein an amount of potassium cyanide far in excess of that required to cause glycosuria when painted on the pancreas, without causing the excretion of any sugar whatever. The poison therefore does not act through the circulation. It is so quickly altered in its chemical constitution that it does not reach the pancreatic cells as potassium cyanide. Hence we must assume that when the cyanide acts on one end of the divided pancreas it does not have any influence on the remaining portion but acts solely by means of this restricted influence. We know from many observations on extirpation of the pancreas that the presence of one intact half of the pancreas is sufficient to prevent the onset of glycosuria. Thus we have in the phenomenon of glycosuria after the local application of potassium cyanide something quite distinct from a total suppression of function.

When the pancreas is severed into a larger and a smaller portion (representing, say, two-thirds and one-third of the gland), the application of one c.c. of adrenalin chloride (Takamine) solution (1-1,000) to the smaller portion is followed by the appearance of sugar in the urine. We know that when adrenalin is injected into the circulation it is capable, unlike potassium cyanide, of producing glycosuria; hence this method of experimentation does not enable us to exclude some action of the adrenalin upon the unpainted piece of the gland through the general circulation. The cyanide experiment, however, makes it in the highest degree probable that such action upon the unpainted gland is unnecessary for the production of a glycosuria. In other words, the cyanide experiment indicates that the stimulation of one part of the pancreas by adrenalin is sufficient to call forth the excretion of sugar.

The observation with adrenalin suggested to me that the organism possesses a hitherto undiscovered mechanism by which sugar metabolism is largely controlled under physiological conditions.* It seems to me that if relatively large applications of adrenalin to the pancreas call forth temporary glycosuria, slighter influences of the same sort may serve as a continuous but variable physiological stimulus to the pancreas to call forth the sugar that is constantly required by all cells in which metabolism is active. It seems natural that the suprarenal gland should be the means by which this controlling influence is exerted, since it may be assumed that this organ is constantly producing and liberating a secretion containing a substance allied to adrenalin.

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*On Adrenalin Glycosuria and allied Forms of Glycosuria due to the Action of Reducing Substances and other Poisons on the Cells of the Pancreas. MEDICAL NEWS, May 10, 1902. For a somewhat more extended account of adrenalin glycosuria see Virchow's Archiv, Band 169, 1902.

*The word glycocatechic may be employed as a synonym for sugar-controlling.

I have now put this hypothesis to the experimental test, and have obtained results which firmly establish the sugar-controlling influence of the suprarenal gland. This function of the suprarenal is of so great importance to any understanding of the pathology of human diabetes that I consider it desirable to call attention to some of the facts that have come to light. Full protocols of experiments will be given in subsequent publications. At present it is intended merely to indicate the character of the evidence upon which the newly recognized function of the suprarenal gland is based.

Massage of One or Both Suprarenal Glands is followed by Glycosuria.—It is suprarenal gland is constantly making a secretion containing a substance which enters the blood and stimulates the pancreas to call forth sugar from the liver it is reasonable to expect that the influence which stimulates the suprarenal to excessive secretion will induce glycosuria.. It was therefore resolved to try the effect of intermittent massage upon the suprarenal gland, in order to express into the blood a larger amount of the substance in question than would enter it under physiological conditions. The experiments were made exclusively on dogs. After opening the peritoneal cavity by a median incision each suprarenal gland was in some cases intermittently and moderately compressed between the thumb and forefinger for a period of about five minutes. Towards the end of the manipulation the glands were subjected to considerable compression and the structures of the gland were felt to give somewhat. The operation is very easily carried out and the compression is readily limited to the region of the suprarenal glands.

As examples of the effects of intermittent compression the following may be cited: A normal dog weighing 18 pounds was subjected to the operation just mentioned. The urine before the operation was free from sugar and the blood at this time contained 0.19 per cent. sugar. One and one-half hours later the urine contained 4.7 per cent. sugar and the blood-sugar had risen to 0.27 per cent. Nine hours after the operation the urine contained only a trace of sugar. In another dog, weighing 17¾ pounds, massage of the suprarenal glands was followed after one and a quarter hours by three and five-tenths per cent. sugar in the urine. In a third animal massage of one suprarenal gland led to the excretion of urine containing 1.25 per cent. of sugar three hours later. In all three cases sugar quitted the urine within 24 hours of the time of operation.

The experiments closely resemble in their results the effects of applying weak solutions of adrenalin chloride to the surface of the dog's pancreas, and it is difficult to believe that their significance is not similar. The application of pressure to the suprarenal gland probably squeezes into the circulation an excess of the blood-pressure-raising constituent of the internal secretion of the gland, and this constituent is probably responsible for the glycosuria observed. The glycosuria is doubtless determined largely or wholly by the action of this constituent on the cells of the pancreas. In a later paper I shall report on the influence of heat and other protoplasmic stimuli on the adrenals.

Removal of the Suprarenal Glands or Ligature of its Vessels is Followed by a Rapid Decline in the Sugar of the Blood.—The results obtained by intermittent compression of the suprarenals are suggestive of temporary overaction of the gland from mechanical causes. If such overaction leads to glycosuria one would expect that removal of the glands or ligature of their vessels would be followed by the opposite condition; namely, a decline in the percentage of the sugar in the blood. Experiments showed that this is indeed the case. A dog weighing 19¼ pounds was etherized and bled for sugar determination in the blood (modified Allihn method). Then the vessels of the right suprarenal gland were ligatured. The left gland was removed. Duplicate determinations of the blood-sugar before operation gave .217 and .211 per cent. of sugar. Five and a quarter hours after operation duplicate determinations gave .112 per cent. and .107 per cent. of sugar in the blood. In another dog, weighing about 22 pounds, the blood-sugar fell in six hours from .187 per cent. to .16 per cent. after a similar operation.* In a third instance the conditions were peculiarly instructive. A dog weighing 23 pounds suffered removal of the left suprarenal gland and ligature of the vessels of the right gland. The urine just before operation was free from sugar, and the blood contained 0.20 per cent. sugar. In the manipulation attendant on the removal of the left gland considerable pressure was unavoidably exerted on the organ, and it was remarked at the time that one might expect some sugar in the urine as the result of this unintentional pressure. Four and a quarter hours after operation the urine contained 0.3-0.4 per cent. of sugar and the blood-sugar was 0.29 per cent. Nine and a half hours after operation the urine contained about 0.2 per cent sugar and the blood-sugar had dropped to 0.16 per cent. Twenty-four hours after operation the urine contained no sugar and the blood-sugar was 0.14 per cent. Seventy-six hours after operation the blood-sugar was 0.10 per cent.

During the early days of inanition there is a gradual and slight fall in the sugar of the blood, but the diminution is too small to explain the results which have just been cited. I can see only one reasonable explanation for the declines which have been mentioned. The suprarenal glands make a secretion which is capable of stimulating the pancreas in such a way as to call forth an increased conversion of hepatic glycogen into sugar. The removal of these glands or the ligation of their vessels deprives the organism of a substance which habitually serves as a physiological stimulus to the liberation of glucose into the blood. The blood-sugar falls because it is used up by the cells more rapidly than it is liberated.

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* These figures do not fully represent the fall in blood-sugar, for owing to a technical slip a portion of the blood-sugar from the first bleeding was lost.

I do not wish to be understood to imply that with the removal of the suprarenal gland the organism wholly loses its ability to make sugar. That this is not the case can be shown by a very simple experiment. The suprarenals of a dog were excluded by vascular ligation. After three hours the bladder was emptied and the dog received one gram of phlorizin subcutaneously. Within one hour the urine contained more than ten per cent. of sugar. It occurs to one that the low content of the blood in sugar after exclusion of the suprarenals may contribute to the early death that follows the operation. Probably all the active cells of the organism require sugar for food, and it is conceivable that when the supply falls below a certain level the cells of the nervous system are no longer able to functionate. It is of course impossible to distinguish sharply between the cell-disturbances that arise from deprivation of the blood-pressure-raising stimulus of the suprarenal secretion and those which follow deprivation of sugar.

On the Excretion of Sugar after Total Extirpation of Pancreas preceded by Exclusion of the Suprarenal Glands.—If it is true that the suprarenal gland is an organ which controls carbohydrate metabolism in the sense that it furnishes under variable nervous stimulation variable quantities of a secretion capable of calling forth larger or smaller amounts of hepatic sugar through a specific action upon the pancreas, one would expect the carbohydrate metabolism after the elimination of the combined suprarenal and pancreatic functions to differ from the carbohydrate metabolism after elimination of the pancreatic functions alone. One might predict from the facts which I have brought to light that the organism would excrete less sugar after elimination of the combined pancreatic and suprarenal functions than after the elimination of the pancreatic functions only, for the reason that the capacity of adrenalin preparations to induce glycosuria appears to depend largely, if not exclusively, on the presence of the pancreas. One might even suspect that the removal of both pancreas and suprarenals would render pancreatic extirpation inoperative in the production of glycosuria. The facts at present known, although inconclusive, are in harmony with such a forecast. I extirpated the pancreas *totally* in four days soon after the ligature of the suprarenal vessels on one side and the ablation of the suprarenal gland on the other.* In every instance the urine (previously normal) contained a small quantity (0.1-0.3 per cent.) of a reducing substance (dextrose-glycuronic acid?) in the collection immediately following the operation. But it is to be emphasized that this reducing substance *instead of increasing after the operation rapidly lessened and left the urine entirely free from any reducing substance.* Two of the animals lived 10 hours. The others survived operation a shorter time. In each instance the peritoneal cavity was found filled with a serosanguinolent fluid which did not clot.

I have many times practised total extirpation of the pancreas and have never failed to find sugar in the urine within two hours after the operation. The percentage of sugar has always increased rapidly within the first 10 hours. Some observers, however, state that glycosuria does not always appear during the first hours. It is possible that if my four dogs had lived 24 hours or longer sugar would have reappeared in the urine, but I fail to understand why the urines in these cases behaved as they did unless it is because the suprarenal functions had been eliminated. I shall draw no conclusions from these experiments until their results have been repeatedly confirmed. It is especially important to remove the pancreas, obtain glycosuric urine, and then extirpate or tie off the suprarenals.

Does Codeine Repress Human Glycosuria by acting upon the Suprarenal Gland or its Internal Secretion?—The well-known fact that codeine diminshes the excretion of some diabetic patients, at least temporarily, suggested an inquiry as to its method of action and led to some observations of considerable interest. It was found that when an aqueous solution of codeine is mixed with a solution of adrenalin in suitable proportions the addition of a drop of a ferric chloride solution does not cause the appearance of the transitory emerald-green reaction (Vulpian's reaction) but gives a characteristic maroon coloration which is very striking. I take this to indicate that codeine enters into chemical union with adrenalin which alters the chemical properties and probably the physiological action of the latter. It is a noteworthy thing that pyrocatechin, a trihydoxyphenol which has been regarded by some investigators as the active principle of the blood-pressure-raising constituent of the suprarenal gland, yields a similar reaction when treated with codeine.* I shall not at present enter into further details as to the significance of these reactions, which so far as I am aware have never been described. I will add, however, that codeine appears capable of rapidly lowering the blood-sugar content of normal dogs. Whether these facts indicate that codeine represses human glycosuria by uniting with a product of the suprarenal gland is of course an open question. There are some facts which speak in favor of this idea and others which seem opposed to it. Detailed observations on this interesting point will soon be published.

I shall not undertake to discuss here the bearings of the sugar-regulating function of the suprarenal glands upon the physiology and pathology of carbohydrate metabolism. The recognition of this function will throw new and important light upon human diabetes, and this leads me to make this brief report upon my studies at the present time.

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* In each instance the right suprarenal was thrown out of function by ligation of its vessels: the left suprarenal, which is more readily reached, was then removed completely.

* The color in this case is violet. Pyrocatechin alone gives a green color with ferric chloride. The reactions of many phenols with ferric chloride are altered by allowing them to act on codeine before the addition of the iron salt.

ORIGINAL ARTICLES.

REMARKS ON INTRATHORACIC PRESSURE, WITH THE ILLUSTRATION OF THE AUTHOR'S METHOD OF LUNG IMMOBILIZATION.*

BY CHARLES DENISON, A.M., M.D.,
OF DENVER, COLORADO.

THE reciprocal relation between the air which flows in the pulmonary spaces and the blood which courses through the vessels within the thorax is a matter worthy of special study. There is no doubt about this reciprocal relation, for both the air and blood are always coincidentally influenced by the varying pressure states which accompany muscular exertion, vocalization and breathing. If the conditions are such that one of these fluids is embarrassed in its free movement the supplemental pressure goes to the other fluid, which is correspondingly quickened in its action.

If the tissue resistance to pressure is increased on one side of the chest, through abnormal processes as in fibrosis, the more flexible of these fluids, *i.e.*, the air, will first respond to the demand for expansion, and on the other side of the chest, where there is less resistance. In health and disease the interdependence of respiration and blood circulation—the heart and the lungs—is thus apparent.

It is not, however, my present purpose to try to show why the face and periphery of the body generally are congested in hill-climbing, or how the same parts are blanched in chill, or heart-failure, any more than it is to seek to fathom the blushing of the heart-throbbing maiden or the paling of the frightened criminal. But it is my purpose to call attention to some of the air-pressure states which characterize various diseased conditions of the lungs and pleura, and to try to differentiate the indications for treatments necessarily as various as the diseases. For between the truism that the life of the lungs is its use and that other truism that to cure a diseased organ you should, if possible, put it to rest, there is a broad field in which there is a better choice than either horn of the dilemma. We must recognize the difference between an *acute febrile toxemic congestion*, bordering upon strangulation of a part, necrosis or suppuration, and a *chronic afebrile induration*, with catarrh, or even pulmonary excavation, but with tolerance and elimination already in a great measure established. Where between these two extremes, wherein the great majority of invalids at health-resorts are to be found, will you take your stand as to the interdiction of muscular exercise, high altitudes and pulmonary gymnastics? Our great fault is the failure to recognize, in discussion of the desirability of exercise, the many characteristics of a case of disease, as well as its environment. No one should take a decided stand without stating the kind of case he refers to; and unqualified opinions are necessarily of questionable value.

The misunderstanding between opposing disputants is largely due to not limiting the harmfulness of exercise to severe or very febrile cases. The line of differentiation may be questionable, but nevertheless the general argument has of late been a too wholesale condemnation of exercise. I wish to show that the more nearly we can imitate nature's method in our curative efforts the surer we shall be that we are on the right track. Nature's method of cure in chronic pulmonary disease not only involves the contraction and scarring over of diseased areas, but the coincident compensative distention of surrounding healthy or less affected portions. The expansion of the air, because of its changed temperature when inhaled, as in cold climates, takes place in the direction of the least resistance.

Dr. C. Theodore Williams instanced the very general result of vesicular emphysema adjacent to healed lesions in cases of pulmonary tuberculosis arrested or cured in high altitudes. Despite the varying degrees of atmospheric pressure within the lung, these are examples of healing by contraction, nor has the meddlesome injection of nitrous-oxid gas into the pleural cavity been employed. Those of us who hail from high altitudes have seen hundreds of persons recover while living active lives in elevated resorts. This is because of the contraction—nature's natural shrinkage—of the affected lung, while the other lung shows ample compensation for this deprivation. In a case I have in mind there remains, several years after arrest of tubercular disease of the right lung, only a one-half-inch movement of that side, while the other, the left side, has acquired an expansion of three inches.

The views in contravention of the exercise and altitude treatment found, at the meeting of the American Medical Association in 1901, such a pronounced champion in our fellow member, Dr. Norman Bridge, through his paper on "The Proper Management of the Tuberculous Lung," that I cannot do better than take his points of argument for our discussion.

That phase of his article which seems to invite discussion is the do-nothing policy advocated. He says: "It is unwise and unfair to tax a consumptive with the duty of watching the manner of his breathing. To be quiet and protect others from his expectoration is about all we ought to ask him to do."

Since when has it been wrong for the physician not only to determine the causative relations to tuberculosis of defective and insufficient breathing habits, but also to do his best towards correcting these faults through instruction of the patient and by urging the systematic practice of appropriate breathing exercises? Is it not rather the physician's bounden duty to determine, if he can, the errors of respiration and, at the earliest practicable moment, to set in motion the remedial measures which will counteract the evil? Indeed, the improvement in recoverable patients seems to bear a very close relation to their knowledge and ability to breathe properly, and to live the kind of outdoor life that stimulates healthful respiration.

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* Read before the American Climatological Association at its Los Angeles meeting, June, 1902.

Let us analyze this author's objection to the use of a tuberculous lung. He says "shallow breathing is important and beneficial for a tuberculous lung that has to breathe; better than that is no breathing. The good rule to put a sick organ at rest finds no exception here; quiescence gives the forces of nature the best chance."

I recognize no ground for such argument except it be limited to a lung in active inflammation, or during hemorrhage, or when rapidly breaking down. I fail to find any such limitation in this paper. The initiatory and infiltration stages are presumably included. One has to object to this, though one admit, as I do, the reasons given and necessity for chest immobilization in advanced or special conditions. I heartily agree with his premise that "quiescence of the lung favors the limitation of the disease by fibrosis around and within the part involved with the smallest amount of fibrous tissue, and the smallest amount that can be effective is desirable." Sometimes (and in unfavorable atmospheres) it is true that "deep breathing does violence to the fresh, new fibrous tissue, and so probably stimulates the further and excessive growth of it."

But the life and healthfulness of a lung depend upon its use, and the curtailment of its natural function in any part should be looked upon as a compromise, supplemented, if possible, by an equivalent increased use of unaffected portions. The chief consideration then for chest immobilization is that it can be unilaterally applied, and that the other lung can do the supplementary work thereby required by it. If both lungs are chronically affected, or nearly so, we are correspondingly handicapped; but, even then, I think so much of the method of unilateral chest immobilization (described later) that I would use it in localized hemorrhagic infarction, pleurisy and excessive softening. In pulmonary hemorrhages I have found it of signal service, also in steadying and stiffening the thorax in fracture of the ribs. In the effort to limit cavity formation it has been quite as useful in performing its chief function, which is to limit fibrosis to the region needing it and to the extent necessary. But this benefit and the stated reasons for it give no ground for the statement, "There is no particular need of or significance in the popular efforts in the real or supposed expansion of the chest by deep breathing and wide movements of the arms," which the author claims are ineffective to "ever expand the chest anyway, since the shoulders glide over muscular masses around the cone of the chest without changing its diameter or its position. That they can so act is a layman's theory," he says, "founded in poor knowledge of anatomy."

Indeed, we are surprised that a non-recognition of the important relation of the anatomical structure of the thorax to arm movements and chest exercises should be laid alone at the door of the "layman!" We physicians should more generally recognize the relation of the pectoralis minor and major, the latissimus dorsi and the intercostal muscles to respiration, and the normal function of respiration, its limits and conditions, so that we may consistently and steadily try to bring back the diseased lung to its normal state. After 30 years of practice under conditions calculated to enable one to form a fair judgment, the hobby of "rest" for the lungs appears to me to be very generally overridden. Numerous articles advocating the do-nothing policy go unrebuked because it is all right for a doctor, not knowing anything better to do, tô hedge against overaction. He ought, however, to know when and how far exercise is admissible, and the great and inestimable value of *systematic progression* of both breathing and chest exercise. Substitute walking, massage, etc., if you like; but adjusted and proportioned pulmonary gymnastics constitute, up to a certain point, one of our best aids in the arrest of tuberculosis. A personal knowledge of each individual case should determine the degree of exercise which is advisable or permissible.

In harmony with such extreme views, this essayist has something to say against altitude. To quote: "Altitudes do not help the sick with lung tuberculosis by expanding to a greater degree the air-vesicles. The theory is fallacious, unphysiological and wrong. The benefits of altitude must be explained on the theory of the increased number of red blood-corpuscles, even if they are reduced in size, and of attendant and other advantages to the general nutrition of the body. These advantages are not discounted when we try to explain them on the natural ground of known physiological changes, instead of upon suppositious grounds which are founded in error."

This is indeed ingenious, but how lacking in proof. For instance, is it correct or logical to admit the increase in number of the red blood-corpuscles and "other advantages to the general nutrition of the body," and at the same time to deny their relation to the increased amount of air consumed and the necessarily consequent greater expanding of the air-vesicles? One may admit that there is an increased amount of static electricity in the altitudes, and an easier conversion there of oxygen into ozone, either within or without the blood. That, however, does not controvert the established law that the amount of air used is proportioned to the lessened barometric pressure of the given altitude. No, it is unreasonable and illogical to try to dissociate the complex effects of lessened atmospheric pressure (especially including the greater distention, of the air-cells due to the greater amount of air used) from those "known physiological changes" which every observer properly attributes to altitude. Similar physiological changes are produced, though not in the same degree, by those exercises and methods of breathing which *do* produce distention and uniform use of the air-vesicles, showing that all these aids to healthful pulmonary activity are inseparable and support each other as conditions of the cure. Of course altitude and exercise intensify the influence of each other. However, the wholesale denunciation of exercise is strained when it is also made to include opposition to altitude. This is proved by the fact that when quiet, sitting or lying, even an invalid's respiration and pulse are not much accelerated a mile above the level of the sea. There is ordinarily less respiratory difference between sitting still and walking at the rate of two miles an hour at the sea-level than there is between lying down at the sea-level and at 10,000 feet elevation.

The opposition to a successful and beneficial method of breathing for the consumptive—exhalation sustained against pressure—is quite as groundless (for curable cases) as that to altitude and exercise. To quote again: "Breathing through diminutive contrivances of tubes with large inlet and smaller outlet, so as to produce increased pressure within the chest to expand the air-vesicles, is harmful if any effect at all is produced." Has the author ever measured the results of such exercise, long and systematically practised, and judged of them by the spirometer and manometer records before and afterwards? He does not appear to appreciate the influence upon the blood-circulation which is produced by the increased pressure within the thorax, in the method above referred to, forcing onward and outward to the periphery the sluggish currents within the lungs. Nor does he appear to appreciate the concurrent even and general distention of the air-cells, which to a degree can be borne with comfort by the weakest invalid. In fact, there is a persuasiveness in the mild stimulation of previously unused air-cells which makes this method of pulmonary gymnastics usable by patients who are too weak to take other physical exercise. As to any harm resulting, I have employed the method in hundreds of cases and know that that is impossible if discretion and reason are applied in its use.

The opinion expressed by Dr. Briggs and others in regard to pulmonary exercise must of necessity arouse opposition on the part of those of the profession whose experience in the treatment of pulmonary diseases in high altitudes does not corroborate the arguments of these opponents of exercise. The "pity" is on their side and not on ours. Think of the lives that are lost or frittered away in the crowded cities of the East, when an active life out in the country or upon our Western plains, reasonably undertaken, would assure an arrest of the disease! Is it not to be feared that the medical profession is coming to be "a party to the crime" in harboring the disease in its original haunts, by keeping tuberculous patients in closed sanatoriums or hospitals. If this must be done, let the ways of Dr. Walther's Detweiller institution in the Black Forest in Germany be followed. Going through the main building of that institution last summer, I saw no confinement of the sick to inaction indoors. They were all out on the hillside, or up the narrow cañon, presumably active according to their condition and ability. When they did return to their rooms, it was to the equivalent of an outdoor life, for the window-sashes were removed from the whole building.

I heartily agree with the contention that public speakers with pulmonary tuberculosis should quit that vocation. Some of my most unsatisfactory patients have been preachers with laryngeal complication. Perhaps the forcing of the air outwards, to assist a weak vocalization, has something to do with the greater lung-shrinkage and increased fibrosis which characterizes these cases. A reason can be seen in their experience for some different and opposite kind of pulmonary gymnastics than that which their profession induces, *i.e.*, that kind which *would* distend the air-vesicles.

Now, as to immobilization of the diseased lung, when needed, I do not indorse Dr. Briggs's conclusion that "gas-inflation of the pleural cavity, according to the method of Murphy, is undoubtedly the best way to accomplish this purpose when it can be done." There are apt to be too many concealed hindrances to its success, especially bilateral extension of disease and adhesions on the affected side. The four cases I have had under observation in Colorado, on whom this operation had been previously tried, were left in an unfortunate state because of adhesions, extensive fibrosis and shrinkage of the affected lung. Two of them remained in a mental state of bitter opposition to the operation. The substitute method of strapping the chest described by Dr. Briggs is, I think, too cumbersome and indefinite in sustained effect, the plasters, as admitted, having "a tendency to creep or slide."

I will give the method of strapping the chest which I have employed for years as simplified up to date. We can obviate the special spreading of traction adhesive plasters, formerly deemed necessary,* by the following use of the moleskin adhesive strips as manufactured in pieces seven inches wide. For a small person one and one-half feet will answer, and for a very large chest two feet or more of a ten-inch width is preferable.

First, without removing the protecting muslin from the adhesive side, cut through the center lengthwise, diagonally, as shown in the drawing No. 1 (X to Y), the small ends left being about two inches wide.

Then strip back and remove the muslin from A to B and C to D. The application is made by lapping the adhesive ends A and C over each other in the infra-axillary space of the side of the chest to be immobolized, the small ends extending diagonally upward, front and back, to the point of the opposite shoulder. For a fulcrum, a collar is made say of cheese-cloth in which a little cotton is rolled, or of canton flannel with fuzzy side outward. This is to fit over the shoulder. Now with safety-pins you can cinch up the non-sticking ends of the plasters to the collar so as to make a harness which will stay just where you put it, and as tight as the patient can comfortably bear it. You can obtain practically complete rest for the diseased lung, the movement of that side of the thorax being nil, and that of the diaphragm and mediastinum being minimized to very little. I have left on these traction plasters for two weeks. Where necessary to keep up the effect, I have either applied new ones or had a canvas jacket made on similar principles—with fulcrum collar and diagonal straps, and with lacings or buckles in front. Where the attending physician fears to trust a too ambitious and reckless patient, as after a hemorrhage or abscess, this strapping gives the needed immobilization, and is very satisfactory both to doctor and patient.

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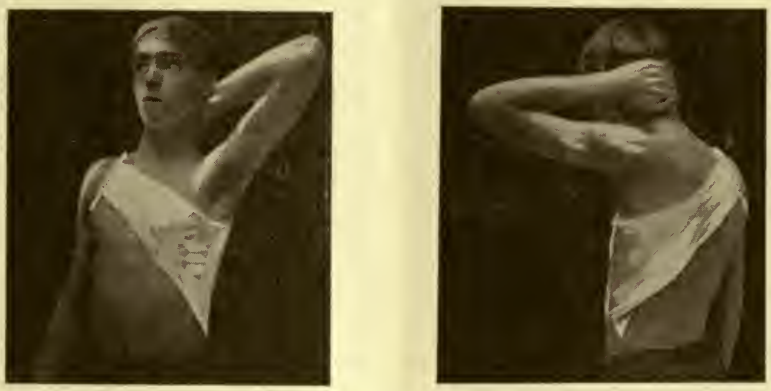
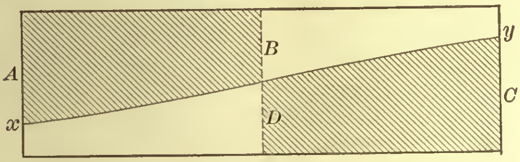
* Transactions Colorado Medical Society, 1898-99: "Traction Plasters for Temporarily Contracting the Affected Lung, in Lieu of the Murphy Operation;" and International Journal of Surgery, July, 1899: "Air Limitations to Intrathoracic Surgery."



Front and rear view when applied.

In previous papers the arrest of pulmonary hemorrhage (properly located), the contraction of pulmonary excavations and the relief of pleurisy have claimed attention. In closing this paper, an instance of where the limiting and fixing of fibrosis seemed to demonstrate the utility of this method will be given.



Scheme for preparing plaster.

An attorney, aged thirty-one, came from Chicago to Colorado in April, 1900, having had right pleurisy two years previously. This was undoubtedly tubercular, for on physical examination an excavation was found in the apex of the right lung, and the previous August he had had a hemorrhage from near the same pleuritic spot in lower right mammary region. From April to the end of December the patient was only slightly improving. Then he responded so well to the tuberculin-test that treatment with the watery extract was instituted and kept up until February 22 following. There was some contraction of the right cavity and evident healing of the affected portion in right inframammary region. A gain of 19 pounds in weight during the previous winter and general good feeling led the patient to decide to return to Chicago March 22, 1901. This was for family and business reasons, and against my advice. Health was good until August, when, having taken a bad cold, coughing seemed to open the spot in the base of the right lung, for, with the resulting profuse hemorrhages, scar tissue was expectorated and a small excavation left there. He remained in a weak condition, fearful of more bleeding if he did anything or tried to come back to Colorado. After being quiet or housed several weeks he came back to Denver about the middle of October. His gait was slow, and he was bent over to the right, to favor the affected spot. It was at once clear to me that strapping with the traction plasters would give courage and needed support, and limit healing fibrosis to the right degree. This was done and the application was most successful. Improvement was satisfactory in every way. The plasters were worn two weeks.

A similar hemorrhagic experience this last April, due to this patient's self-inflicted confinement and overwork at his desk, led again to the strapping of his chest, by which it is hoped an increase in the size of his excavation has been limited.

STRICTURES OF THE MALE URETHRA.*

BY ROBERT H. GREENE, A.M., M.D.,
OF NEW YORK;
SURGEON TO PENITENTIARY AND WORKHOUSE HOSPITALS; GENITO-URINARY SURGEON TO FRENCH HOSPITAL.

To call the attention of this society to as time-worn a subject as stricture seems almost unnecessary. The paper is short, however, and as far as possible states the result of personal observations.

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* Read before the Celtic Medical Society, April 24, 1902.

The definition of stricture may be omitted. You have probably all treated them. Until 30 years or so since they were pretty generally treated by dilatation, and cutting was not so frequently resorted to as later on. Then, through the invention of improved methods of incision and to a slight extent by divulsion and electrolysis, dilatation was in many cases replaced. Recently the pendulum seems to have swung the other way and cutting operations for strictures are not nearly so commonly performed—fortunately, I believe. Divulsion at least, I am glad to say (as an example of its bad effects, I have observed in one man a pus-kidney with a resulting chronic sinus follow its adoption) has been pretty completely done away with.

Still articles have recently been written recommending the incision of some dilatable strictures preferably by means of external urethrotomy, providing they are hard and extensive and in the urethra of poor men who are liable to be careless about having the canal kept open if gradual dilatation is trusted to. The writer takes exceptions to such views and will speak concerning this farther on.

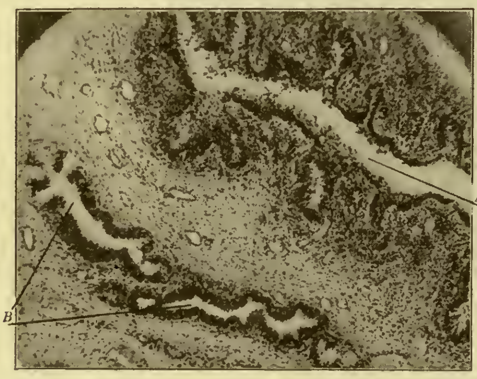

Plate No. 1 represents the first condition—that of acute inflammation. It is a transverse section through the urethra of a man about thirty, who died from acute alcoholism. He had an acute urethritis of about six days' duration. The urethral opening is shown by the space pointed to by the line marked A. The infiltration of the inflammation is, of course, shown in the shot-like appearance around its edges. A high enough power would show the gonococci in the pus-cells there. The other cavity represented by the line marked B is a gland of Littré. The communication between the gland of Littré and the urethra is not shown in the picture. It will be noticed that there is the same infiltration into the gland of Littré (that is, surrounding its edges) that there is into the urethra. It is very interesting to notice the great distance between the gland of Littré and the urethra. This tends to demonstrate that the idea that acute urethritis can be cured by irrigation into the anterior urethra is, in this case at least, wrong.

Just a word as to the pathology of stricture. Who made the first observations as to its nature cannot be stated. In 1894, having observed obstructions in the urethra disappear through the treatment of an accompanying chronic urethritis without dilatation obstructions, considered at that time to be stricture, the writer consulted his friend the pathologist, Dr. Ira Van Geison, for the purpose of finding out from him, if possible, the nature of urethral obstructions. From him he learned what conditions were present. Van Geison's views have been confirmed by those of other pathologists. We have in the formation of true stricture two anteceding conditions: (1.) An acute exudative inflammation with infiltration; (2.) the formation of a granuloma, at the base of which, in time, connective tissue forms, making true stricture.

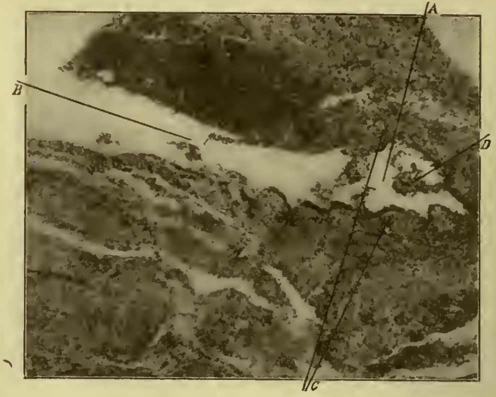

Plate No. 2 represents a transverse section made through the urethra of a man about thirty years old, who died from the effects of stricture; that is, he died from multiple kidney abscesses, cystitis with dilated ureters following retention of urine. In this specimen a cut was also made longitudinally in the urethra, so the opening to the left of the line B represents the urethra opening, and the wavy black line C on the borders of the opening represents true cicatricial formation, that is, the stricture from the effects of which he died; while D, as stated above, represents granular projections into the urethra, or soft strictures.

As the acute urethritis subsides it leaves the urethra full of small excoriations, the surface of which, becoming granular, gives rise to bunches which can be recognized in the urethra. These have often been incised in the past under the name of soft stricture. They are admirably shown in Plate[1] No. 2. Letter D.

It was their disappearance without dilatation which first caused the writer to look up the pathology of stricture. Nature herself, or any treatment internal or local which assists her efforts by stimulating circulation, tends to cause them to disappear. If they continue long enough, as stated above, cicatricial tissue forms in their base and true stricture results. This formation of cicatricial tissue to any perceptible extent is ordinarily a slow one, taking perhaps years for its accomplishment. Improper or careless instrumentation through traumatism will accelerate its appearance.

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[1] The writer desires to express his thanks to his friend, Dr. Harlow Brooks, for plates appearing in this article. Plates from similar specimens have rarely been shown. They were obtained by him during the course of his necroscopical work at Bellevue Hospital.

Granular infiltration of the urethral wall is shown all through the field, the black patch toward the bottom of the figure represents a necrotic lymph-node.

Treatment.—The acute urethritis generally, if treated without local applications will be less inclined to leave chronic inflammatory areas behind it, than if treated locally too early and too vigorously. As the acute exudate inflammation subsides, treat any patches left behind, which nature has failed to cure, by the appropriate local treatment for chronic urethritis. Such measures will tend to prevent the formation of cicatricial tissue, and should be persisted in for a long time. Irrigations, instillations, with occasional dilatations, may be called for. When called upon to treat a true stricture, any chronic urethritis having been remedied by appropriate measures, the stricture itself should ordinarily be treated carefully and for a long time by dilatation. Preferably by the use of rubber instruments up to the high numbers, as by their use the urethra is less liable to be wounded. For the more extensive dilatations, use steel sounds carefully, remembering that their use is apt to be irritating to the prostate and that a chronic prostatitis not infrequently accompanies stricture. Those urethræ occasionally met with which stand dilatation badly, if carried beyond a certain point and which pass under the name of irritable urethræ, either have an accompanying chronic urethritis, or the individuals possessing them are suffering from some systemic depression, like neurasthenia or lithemia, which should be remedied by appropriate systemic treatment.

Remembering that stricture is the formation of cicatricial tissue, its incision will lead to the formation of more cicatricial tissue later on unless the canal is kept open. It is almost never necessary to cut a stricture that has not been previously incised or had its connective tissue increased by improper instrumentation. Individuals are occasionally met with, more often in hospital practice, the whole bulb-membranous juncture of whose urethra has become a mass of cicatricial tissue, and such a condition exists that incision is almost imperative. Generally in such cases a history is given of previous urethrotomies having been performed. Even in such cases it is often possible to get along without further cutting. When after due deliberation incision seems called for, it should be carried to such an extent by external, and often internal urethrotomy as well, that a No. 30 French sound can be passed with ease. It would seem unwise, even in those old stricture cases just described, to incise them with the idea that owing to the careless habits of the patient their urethra will be liable to remain open for a longer time, than if it was entrusted to them to see that gradual dilatation was persisted in. For in urethrotomies the patient is submitted to two dangers: (1) The danger of death from hemorrhage or septicemia, which is comparatively slight but is probably more frequent than statistics record; and (2) the danger of patients being rendered impotent from injury to the floor of the prostatic urethra or through deformity caused by excessive incision in the pendulous urethra.

Remarks on the Technic of Operative Procedures.—A catgut filiform can occasionally be passed in the case of retention of urine, when it is impossible to pass the ordinary whalebone filiform. One of these can be tied in for a few hours and later on an ordinary filiform can be passed and the stricture dilated by the passage of tunnel sounds of increasing sizes over the filiform in the usual manner, generally taking pains to hug pretty closely the roof of the urethra with the sound; or the author's modification of the Banks filiform, an extremely useful instrument made by Tilmann, can be used. Occasionally the length of the urethra will necessitate the use of a filiform of double length. These very long filiforms are apt to form a hook over the end of the tunnel sound in the bladder and render difficult the removal of the filiform and sound as well. The incision of the urethra in external urethrotomy should be made as far away from the bulb as is convenient, in order to avoid the excessive hemorrhage which sometimes takes place there, proper care being taken not at any time to wound the rectum. Of course in external urethrotomies all bleeding tissue that can be got at should have pressure applied, and the remaining hemorrhage be controlled by leaving forceps on for some hours if desirable (as suggested by my friend Dr. Henry Morton in his excellent book just published), and by thorough packing. Whether there is much hemorrhage or not, plenty of packing should be put around the perineal tube, care being used not to get it on one side of it merely. Pains taken to secure a good perineal tube with a rounded end, instead of any flat-ended piece of tubing, is time not wasted. The packing should be removed in at least 48 hours, when the tube also can generally be taken out. The prolonged retention of the tube is probably of little benefit, and the packing is dangerous unless changed. The Rand modification of the probe-pointed bistoury, and the Rand modification of the Otis urethrotome instruments are to be recommended.

Conclusions.—(1.) Careful treatment of chronic urethritis will prevent the formation of stricture.

(2.) True stricture is of slow growth and can generally be best treated by a prolonged passage of sounds and the proper treatment of any complication co-existent with it.

(3.) Cutting operations are almost never required in strictures which have not been previously incised. Strictures once incised, unless kept open, are liable to require further incision.

(4.) An incision being necessary, it is better to do an external urethrotomy combined with an internal urethrotomy if required.

COMPARATIVE TOXICITY OF AMMONIUM COMPOUNDS, A STUDY IN AUTO-INTOXICATION.*

BY B. K. RACHFORD, M.D., AND W. H. CRANE, M.D.,
OF CINCINNATI, OHIO.

IN the beginning we wish to call attention to certain rather well-recognized physiological facts which have an important bearing on the questions here considered.

The alkalinity of the blood is due to definite quantities of sodium, potassium, calcium and magnesium, which are so combined in the corpuscles and plasma as to render marked variations in the alkalinity of the blood, either in health or disease, a very unusual occurrence.

The protective mechanism which guards the blood against alkaline loss is so effective that the alkalinity of the blood remains almost constant under nearly all pathological conditions, even those which are characterized by acid intoxications. In certain severe acid intoxications, however, such as may occur in the last stages of diabetes mellitus, it appears that the alkalis of the blood may be drawn upon to assist in the neutralization and elimination of the enormous quantities of organic acids which are present in the body in this condition.

But from our present knowledge of this subject one seems justified in concluding that the alkalis of the blood are not drawn upon to any considerable extent to neutralize acids in acid intoxications except when so large an amount of the acid is present that it cannot be neutralized by the large quantities of ammonia ever present in the tissues and constituting in this respect a protective mechanism for the preservation of the alkaline bases in the blood.

The ammonia which serves this important purpose of protecting the alkaline salts of the blood from acids has its origin, for the most part, in the cellular metabolism and retrograde metamorphosis of albumins which are constantly going on. Under ordinary circumstances the amount of ammonia derived from this source seems amply sufficient to neutralize all the acids which appear in the body. There is, however, another source of ammonia in the chemical changes taking place in the formation and absorption of peptones from the intestinal canal. This is shown by the fact that the portal blood contains a large amount of ammonia during the absorption of peptones. And it seems probable that this ammonia, which normally finds its way to the liver and is converted into urea, may in the presence of severe acid intoxications be thrown into the general circulation and assist the ammonia of the tissues in neutralizing acids and in thus protecting the alkaline bases in the blood.

The ammonia formed in the tissues is under normal conditions combined with CO_2 to form carbonate of ammonium, and this is converted by the liver, and possibly by other organs, into urea. For this reason only a very small amount of this ammonia, under normal conditions, finds its way to the kidney. It has been estimated that about one gram of ammonia is excreted in normal urine every 24 hours. The ammonium compounds, therefore, are found in very minute quantities in normal blood.

We do not understand the manner in which all of this ammonia is collected from the tissues and converted into urea, but we do know that under pathological conditions which result in the presence of acids in the body, the ammonia is seized upon by these acids and carried to the kidneys to be excreted. In acid intoxications, therefore, the acid passes through the blood and tissues very largely in combination with ammonium.

The amount of ammonia which may be excreted in combination with pathological acids is sometimes very great, as much as eight or ten grams may be the enormous daily output in such severe acid intoxications as are found in diabetic coma.

For the above reasons it is our belief that symptoms of systemic intoxication which result from the presence of acids in the body are for the most part due to the poisonous action of ammonium compounds of these acids, rather than to any marked decrease in the alkalinity of the blood, which, under rare conditions, these acids may cause.

Another physiological fact bearing on this research which should here be noted is, that while the alkalis of the blood are not seriously drawn upon for the neutralization of acids until the available supply of ammonia is exhausted, the salts of sodium and potassium, when introduced into the body as medicines, or when from any cause they occur in solution in the body media in excess of the quantities required by the blood, are seized upon in preference to ammonia by the acids. In acid intoxications, therefore, we may diminish the amount of ammonia excreted in combination with acids by administering the salts of sodium or potassium. The sodium and potassium under these conditions, when introduced from without, or when from any cause they occur in excess in the body-media, serve to protect the ammonia from the acids and to allow it to be converted as it normally is into urea, and thus diminish the amount of ammonium compounds in the blood and other body-media.†

The advantages that may be derived from replacing the ammonium which is being excreted in combination with acids with a base such as sodium will appear later in the discussion of this subject.

Ammonium.—In studying the relative toxicity of such ammonium compounds as may possibly occur in the body during health and disease we have thought it advisable in the same connection to study the relative toxicity of such salts of the other alkalis as may possibly be found in the body under normal and pathological conditions, and which may possibly play a rôle in producing the symptoms of auto-intoxications.

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* Read before the Association of American Physicians.

† C. A. Herter, Transactions of the Association of American Physicians, Vols. xv, xvi, and E. P. Joslin, Transactions of the Association of American Physicians, Vol. xvi, discuss very fully and comprehensively the physiology and pathology of acid intoxications.

The five bases which under varying circumstances may be utilized to neutralize acids in the body are ammonium, sodium, potassium, magnesium and calcium. The comparative toxicity of the salts which these five bases form when combined with such acids as may possibly be found in the body under normal and pathological conditions will now be studied.

The animals used in these experiments were ordinary house-mice. The relative toxicity of the various salts was determined by injecting from a carefully graduated syringe a sufficient quantity of 5 per cent. solutions to produce death, and the lethal dose of each salt for a mouse of average size was in this way carefully established.

In this research we have sought to establish not the actual but the relative toxicity of these salts, and have for this reason classified as relatively "non-toxic" all salts which did not in 10-minim doses produce toxic symptoms. Such salts we believe are so feebly toxic that they can play no rôle in producing the systemic symptoms of auto-intoxications, and for the purposes of this research they may therefore be considered as "non-toxic."

symptom noted is an increase in reflex excitability, and this is followed by tonic and clonic spasms. But when the toxic dose is not quite sufficient to produce death, then as the convulsive movements subside the respiratory rhythm is markedly disturbed, the breathing is rapid, labored, irregular and gasping. These symptoms continue for a time, to be followed by a second convulsion, or they may gradually pass off, the mouse entirely recovering. When, on the other hand, ammonium is combined with a poisonous acid, such as oxalic, the resulting salt, which owes its toxicity largely to the acid ion, will produce a symptom-group differing somewhat from the above description, but which still closely resembles the symptom-group of ammonium-poisoning.

As has been previously said, body-acids are, as a rule, excreted as ammonium compounds, and, therefore, in all severe acid intoxications ammonium in combination with acid ions is diverted in large quantities from its normal course and made to pass through the lymph and blood channels of the body until it is finally excreted by the kidneys or other excretory organs. By this process the whole nervous system must be directly exposed to the action of these compounds.

AMMONIUM TABLE.

Salt.	Toxicity of 5% sol.		Amount in fatal dose.		Formula.	Relation of wt. of loss to weight of molecule.		Amount of NH_4 in fatal dose.	
	m.	c. c.	grs.	grms.		Ratio.	Per cent.	grs.	grms.
Ammonium Oxalate	2-3	.04	.033	.002	$(NH)_2C_2O_4$	18:62	29.0	.0096	.00058
Carbonate	2	.12	.10	.006	$(NH_4)_2CO_3$	18:48	37.5	.0375	.00225
Chromate	2	.12	.10	.006	$(NH_4)_2C_2O_4$	18:76	23.7	.0237	.00142
Chloride	3	.19	.15	.009	$(NH_4)Cl$	18:53	34.0	.051	.00306
Nitrate	3	.19	.15	.009	$(NH_4)NO_3$	18:80	22.5	.0337	.00202
Citrate	3	.19	.15	.009	$(NH_4)_3C_6H_5O_7$	18:72	25.0	.0375	.00225
Sulphate	3.5	.22	.175	.011	$(NH_4)_2SO_4$	18:66	27.3	.0477	.003
Tartrate	4.5	.28	.225	.013	$(NH_4)_2C_4H_4O_6$	18:92	19.6	.0441	.0025
Hydrogen Phosphate	4.5	.28	.225	.013	$(NH_4)_2HPO_4$	18:66	27.3	.0614	.0035
Acetate	8	.49	.400	.026	$(NH_4)_2C_2H_3O_2$	18:77	23.4	.0936	.00608
Sarcolactate	10	.62	.50	.032	$(NH_4)C_3H_5O_3$	18:107	16.80	.084	.00504
Lactate	12	.74	.60	.039	$(NA_4)C_3H_5O_3$	18:107	16.80	.1008	.00655

A study of the table clearly demonstrates the toxicity of ammonium when in combination with most of the ordinary acids which may occur in the body. The importance, however, of the ammonium ions in contributing to the toxicity of certain of the ammonium salts in the above table can better be arrived at by comparing the toxicity of the ammonium salts of certain acid ions with the sodium salts of the same acid ions. For example, it will be seen by reference to the table of sodium salts that sodium chloride, sodium nitrate and sodium sulphate are "non-toxic," while the ammonium salts of the same acid ions are quite toxic. Therefore the toxicity of these salts as well as the citrate, tartrate and acid phosphate of ammonium, depends very largely upon the ammonium which they contain.

When ammonium in combination with a comparatively non-toxic acid, such as hydrochloric, is injected subcutaneously into mice the first

From these facts cited the inference seems plain that ammonium may be an important factor in producing systemic symptoms in certain acid intoxications, but how important the ammonium ions may be in these intoxications will depend upon the toxicity of the acid ions with which they are combined. In some instances, as we shall see later on in this discussion, the acid ions are much the more important of the two toxic agents, and in others they apparently exert an antitoxic effect on the toxic action of the basic ion.

In this connection it may be well to note that the non-toxicity of the ammonium compounds when given by the mouth may be explained by the fact that ammonium compounds when given in this way do not as a rule reach the general circulation, but are converted by the liver into urea.

One of the most interesting facts, however, discovered by a study of the table, is that the ammonium ion when combined with an organic acid largely loses its toxicity. The ammonium salts of acetic, lactic and sarcolactic acids are comparatively non-toxic, these acids, when combined with ammonium, apparently neutralizing or destroying in part its toxic action. It was at first thought that this effect might be more apparent than real, the diminished toxicity being due to the increased molecular weight of these complex molecules and the relatively smaller amount of ammonium which these molecules contained. A reference, however, to the table shows that these facts fall short of explaining the comparative non-toxicity of the ammonium compounds of the organic acids. It may be noted that the toxic dose of ammonium lactate contains .00655 of ammonium, while the toxic dose of ammonium chloride contains only .00306, less than one-half as much. The toxic dose of ammonium lactate is 12 minims of a 5 per cent. solution, and this dose is so large as compared with the toxic doses of the ammonium compounds of the inorganic acids that ammonium lactate may be classified as comparatively non-toxic. When in connection with the comparative non-toxicity of this ammonium salt one remembers that the ratio of ammonium to weight of salt in molecule is 18:107, one can readily understand how very large quantities of lactic acid may be carried in combination with ammonium through the body-media to be excreted by the kidney without producing symptoms of ammonium intoxication. It may, however, be well to note that while ammonium lactate is comparatively non-toxic, yet feeble as is this toxicity it is much more toxic than sodium lactate.

What is here said of lactic acid applies with almost equal force to all the ammonium salts of organic acids with which we have experimented. The sarcolactate and acetate of ammonium have about the same toxicity as the lactate. All of these acids may therefore be excreted in considerable quantities without causing toxic symptoms. These facts may explain the absence of symptoms of ammonium-poisoning in diabetes, mellitus and other organic acid intoxications. We do not assert, however, that the antitoxic action of the acid ions of the organic acids is sufficient wholly to protect the body against the enormous quantities of ammonia (10 grams in 24 hours) which may be excreted in diabetic coma.

Sodium.—Sodium is not drawn upon very largely to neutralize acids in the body except when it occurs in available solution in excess of the quantity required by the blood, or when it is introduced from without as a medicine. Under these latter conditions, however, it is seized upon by acids in preference to ammonia. It may therefore, when given medicinally, be utilized to protect the ammonium of the tissues. The sodium thus introduced replaces the ammonium in the neutralization of acids. This we believe may, in some instances, be an important substitution, since in this manner the poisonous ammonium salts are withdrawn from the circulation, and the non-poisonous sodium salts are substituted therefor.

SODIUM TABLE.

Sodium Chloride.......	10 min. of a 5% sol. produced no result.
“ Nitrate........	“ “ “ “ “
“ Sulphate.......	“ “ “ “ “
“ Lactate........	“ “ “ “ “
“ Acetate.... ...	“ “ “ “ “
Uno Sodium Phosphate	“ “ “ “ “
Di “ “	“ “ “ “ “
Tri “ “	“ “ “ “ “
Sodium Sarcolactate....	“ “ “ “ “

In this table the comparative non-toxicity of sodium compounds for mice is clearly demonstrated, since no symptoms were produced by the injection of 10 minims of a 5 per cent. solution of any of the above compounds. From these facts it seems a fair conclusion that the sodium salts cannot be directly responsible for any of the systemic symptoms which may occur in acid intoxications. When, however, the acid intoxication is so great that the sodium of the blood is largely drawn upon and its alkalinity thereby diminished serious symptoms may follow.

Potassium.—Potassium is a base which, when it occurs in available solutions in excess of the quantity required by the blood, or when it is introduced from without as a medicine, may be utilized in preference to ammonia in the neutralization of acids in acid intoxications. Under ordinary conditions a variable amount of potassium is available for this purpose, and potassium may therefore play a not unimportant rôle in the neutralization of acids even before the available ammonia of the tissues has been exhausted. It is not impossible therefore that potassium, which is a poisonous base, may at times contribute to the symptoms produced by acid intoxications.

It should also be noted that in very severe acid intoxications, where the available ammonia has been in great part exhausted, the potassium of the tissues may possibly be drawn upon in preference to the alkalis of the blood to neutralize acids.

POTASSIUM TABLE.

Salt.	Toxicity of 5% sol.		Amt. of salt in fatal dose.		Formula.
	m.	c.c.	grs.	grms.	
Potassium Carbonate....	4.	0.246	0.20	0.012	K_2CO_3
“ Chloride.....	5.	.308	0.25	0.015	KCl.
“ Nitrate......	5.66	.349	0.283	0.0175	KNO_3
“ Sulphate......	6.	.369	0.30	0.0185	K_2SO_4
“ Phosphate....	6.5	.400	0.325	0.02	K_2HPO_4
“ Acetate.......	9.	.554	0.45	0.027	$K(C_2H_3O_2)$

It will be noted, in comparing corresponding salts in this table with those in the ammonium table, that the potassium ion has about one-half of the toxicity of the ammonium ion when combined with the same inorganic acids.

The action of potassium in the mouse differs somewhat from that of ammonium, in that it does not produce violent convulsive action. The symptoms of potassium-poisoning in the mouse are rapid and labored breathing and the termination of this in asphyxia. The toxic action of the potassium ion should be kept in mind, not only because of the possible rôle which it may play as a symptom-producer in acid intoxications, but also because, in therapeutics, by choosing potassium to replace the ammonium ion in severe acid intoxications we may only substitute one toxic base for another. From our knowledge of this subject it would appear that non-toxic sodium is far preferable to potassium for this purpose.

Magnesium.—Magnesium plays a comparatively unimportant part in the neutralization of acids in ordinary acid intoxication. When, however, a severe acid intoxication has almost exhausted the available supplies of ammonia the magnesium of the body may be drawn upon for this purpose. Therefore in severe acid intoxications, such as may occur in diabetes mellitus, magnesium may occur in considerable excess in the urine. For these reasons it may be well to keep in mind that magnesium when combined with acid ions is very toxic. This may be noted in the following table.

MAGNESIUM TABLE.

Salt.	Toxicity of 5% sol.		Amt. of salt in fatal dose.		Formula.
	m.	c.c.	grs.	grms.	
Magnesium Chloride	2.	0.123	0.10	.006	$MgCl_2$
" Sulphate	3.5	0.215	0.175	.011	$MgSo_4$

The magnesium compounds produce death in mice very suddenly and without convulsions. They probably paralyze the heart. When, however, a little less than the lethal dose is given, the breathing is rapid and irregular for a time, and the mouse, after a period of inactivity, finally recovers. Magnesium, when combined with a sulphate ion, has about the same toxicity as ammonium, but when combined with a chloride ion it is more toxic. But notwithstanding the toxicity of magnesium it probably plays an unimportant rôle in producing toxemia in acid intoxications because of the small amount of this base utilized for neutralizing acids.

The poisonous action of magnesium is unimportant also from a therapeutic standpoint, because when given by the mouth it is absorbed in such small quantities that it cannot be utilized to any extent for replacing the ammonium which is excreted in combination with acids in acid intoxications.

Calcium.—Calcium, when combined with acid ions, has a very slight degree of toxicity, as is shown in the following table.

It appears from this table that, excepting sodium, calcium is the least toxic of the five bases, being notably less toxic than potassium. It is not at all probable that calcium plays any direct rôle in producing symptoms in ordinary acid intoxications, because it is not only very slightly toxic, but is excreted in comparatively small quantities in these conditions. It is believed, however, that calcium plays a rôle as a carrier of the oxalate ion through the blood, the calcium oxalate being kept in solution by the acid sodium phosphate. If this be true, calcium may, in this instance, be the carrier of a poisonous ion through the body-media, but our knowledge of this subject is too vague to justify further inference.

CALCIUM AND BARIUM TABLE.

Salt.	Toxicity of 5% sol.		Amt. of salt in fatal dose.		Formula.
	m.	c.c.	grs.	grms.	
Calcium Chloride.....	6.5	0.40	.325	0.02	$CaCl_2$
" Acetate......	10.	0.616	0.50	0.03[illegible]	$Ca(C_2H_3O_2)_2$
" Lactate......	.....	......	......	......	$Ca(C_3H_5O_3)_2$
Barium Chloride......	1.5	0.92	.075	.004	$BaCl_2$

It is possible that the calcium of the blood may be drawn upon like sodium and potassium in very severe acid intoxications, and in this way serious symptoms may be produced, but the symptoms caused by sodium, potassium, and calcium starvation (if such conditions exist) cannot be classified as intoxications directly produced by these bases.

Turning from the rôle which the basic ions may play as symptom-producers in acid intoxications, let us now consider the possible rôle which acid ions may play in these intoxications. In such a study it is necessary that these acid ions be combined with some non-toxic base, such as sodium, so that the toxicity of the resulting salt may represent the toxicity of the acid ion alone.

Inorganic Acids.—Sulphuric, nitric, phosphoric and hydrochloric acids are comparatively non-toxic, as is shown by the fact that the salts produced by their union with a "non-toxic" base, such as sodium, are "non-toxic." From this it would appear that these acids play no unimportant part as direct symptom-producers in ordinary acid intoxications. But, on the other hand, while sodium chloride, sulphate, phosphate and nitrate are "non-toxic," ammonium chloride, sulphate, phosphate and nitrate are quite toxic. But the toxicity of these salts is largely due to the ammonium they contain. It follows, therefore, that the only apparent rôle which these inorganic acids play as symptom-producers in ordinary acid intoxications is as carriers of ammonium, which is brought into the general circulation by their presence in the body.

In cases of acute poisoning by these inorganic acids, where large quantities are introduced from without, the alkalies of the blood may be attacked and serious symptoms in this way be produced. This condition, however, if it ever occurs, is an indirect effect of these acids and not due to their poisonous action.

Organic Acids.—In certain pathological conditions organic acids are present in very large quantities in the body, and these acids, for the most part, are neutralized by and eliminated in combination with ammonium. Yet these severe acid intoxications, in which ammonium in large quantities, in combination with certain organic acids, passes through the blood and other body-media on its way to excretion, may not be characterized by symptoms of ammonium intoxication. Diabetes mellitus is a notable example of this kind. In the advanced stages of this disease we may have as much as 18 or 20 grams of β-oxybutyric acid excreted in combination with 5 grams of ammonium without producing symptoms of ammonium-poisoning. And even in the coma-stage of this disease, when as much as 8 or 10 grams of ammonium in combination with organic acids are excreted in 24 hours, it has not been proven that ammonia plays any rôle in producing the coma, dyspnea and other nervous symptoms present, notwithstanding the fact that this explanation might be suggested by the disappearance of the coma and other nervous symptoms when by medication the ammonium, in combination with organic acids, is replaced by a "non-toxic" base, such as sodium.

But whatever may be the explanation of the nervous symptoms in the last stage of diabetes, when ammonium in very large quantities, in combination with β-oxybutyric acid, is circulating through the blood on its way to excretion, the fact remains that prior to the coma-stage as much as 5 grams of ammonium, in combination with organic acids, may in 24 hours be carried through the blood without producing symptoms of ammonium-poisoning. The explanation of this has already been given in the ammonium table, where it is shown that certain organic acids when combined with ammonium neutralize in part its poisonous action. This property of certain organic acids may be noted by a study of the toxicity of the lactates in the previous tables. Lactic acid is an organic acid normally found in the body, and which, when it occurs in excess, is supposed to be capable of producing systemic intoxications. But lactic acid, like uric acid, has attained this reputation outside of the laboratory. When lactic acid is combined with a non-toxic base, such as sodium, the resulting salt is "non-toxic."

Fifteen minims of a 5 per cent. solution of sodium lactate will not produce toxic symptoms in the mouse. From this it is clear that the lactic acid itself is "non-toxic," and can play no direct rôle in producing symptoms of systemic intoxication. This same acid, as has been already noted, also has the power of partly destroying the toxic action of ammonium when combined with it to form a salt. This is evident from the fact that it requires 12 minims of a 5 per cent. solution of ammonium lactate to kill a mouse. These facts may explain why even large quantities of lactic acid may be eliminated in combination with ammonium without producing symptoms of ammonium intoxication.

A reference to the ammonium table will show that relatively large quantities of acetic and sarcolactate acid may also be excreted in combination with ammonium without producing symptoms of ammonium intoxication. From this the inference is drawn that ammonium is better adapted for the neutralization of certain organic acids than for certain inorganic acids.

It may also be suggested, in explanation of the fact that large quantities of ammonium may be excreted in combination with certain organic acids without producing ammonium-poisoning, that the body has acquired a degree of immunity against the poisonous action of these ammonium salts.

Oxalic Acid.—Oxalic acid, when combined with ammonium, makes a very poisonous salt, for .04 c.c. of a 5 per cent. solution of ammonium oxalate will kill a mouse, and this lethal dose contains only .00058 grams of ammonium. Ammonium oxalate is therefore about four times as poisonous as the ordinary ammonium salts, such as the chloride.

From these facts it is clear that it is the oxalate rather than the ammonium ion that gives toxicity to this salt, and that oxalic-acid poisoning is largely due to the oxalic acid itself, and not to the base with which it is combined. When, however, this base happens to be ammonium the intoxication is more severe. The ammonium ion, while not the most important, is a contributing factor to experimental oxalate of ammonium-poisoning.

It appears, therefore, that oxalic acid may be a potent factor in producing systemic intoxication if at any time it be present in considerable excess in the body-media. It seems, therefore, rather illogical in the light of the uncertain chemical knowledge which we have of all the conditions underlying the formation of oxalic acid in the body, and of the form in which it traverses the body-media, to assert that oxalic acid, an excess of which in the urine is not uncommonly associated with constitutional symptoms, has no causative relation whatever to these symptoms. The relationship which oxalic acid bears to these symptoms has perhaps not as yet been definitely determined, although it is an established fact that an excess of oxalic acid in the urine is not always associated with systemic intoxication.

Carbonic Acid (*CO_2*).—CO_2 is an acid iron constantly found in the body. The ammonia of the tissues unites with it to form carbonate of ammonium, and this salt in turn is converted into urea. A failure of the urea-forming function of the liver may therefore throw into the general circulation a considerable quantity of carbonate of ammonium, which is passed through the blood to be excreted by the kidney.

Since carbonate of ammonium possesses a considerable degree of toxicity (see ammonium table), it may be possible that it contributes to the systemic intoxications which occur as a result of the functional inactivity of the liver.

Addendum by B. K. Rachford, M.D.

Uric Acid Leuçomains.—In a number of papers read before this Association, the first of which was presented in 1895, I held to the opinion that leucomains of the uric-acid group, especially paraxanthin, were important etiological factors in producing migraine and a number of allied diseases. In these papers I gave in detail the experimental and clinical evidence upon which I based this opinion.

In 1899 Dr. Pfaff read a paper before this Association entitled "An Experimental Research, Indicating that Paraxanthin Poisoning is not the Cause of Epilepsy or Migraine." From this research Dr. Pfaff concluded that the urines, from the cases of migraine and epilepsy which he examined, did not contain sufficient paraxanthin to produce poisonous symptoms, and he lays special stress upon the fact that when ammonia was eliminated from his "final fluids" they lost their toxicity. He also suggested from an examination of one of my "final fluids," which contained 17 per cent. of ammonia, that the toxicity of all of my "final fluids" in my published experiments were due solely to this cause.

On this last opinion, concerning the toxicity of my "final fluids," I wish to take issue with Dr. Pfaff, for the following reasons: First, the specimen of "final-fluid" which he examined was not a representative one. At the 1898 meeting of this Association, after discussing this subject with Dr. Pfaff, I agreed to send him one of my "final fluids." On my return home I obtained from my laboratory the residue of one of these "final fluids," which had been standing for some weeks. This I sent to Dr. Pfaff with the explanation that it was one-fifth of a "final fluid" which I had prepared from two liters of migrainous urine. One half of this fluid (one-tenth of my original "final fluid") was used by Dr. Pfaff; the other half, at my request, was returned to me, and then I learned that the fluid sent to him contained little else than the sediment which was produced when ammonia was added in the final step of making these fluids. This explains the very large quantity of ammonia (17 per cent.) which this fluid contained. And the fact that Dr. Pfaff examined a specimen which represented only one-tenth of one of my "final fluids" (a quantity representing only six or seven ounces of urine) may explain his failure to find paraxanthin in the specimen. However this may be, it is certain, as I afterwards wrote Dr. Pfaff, and as I said before this Association in 1899, the "final fluid" in question was not a representative one, as it contained many times more ammonia than the fluids with which I experimented. Secondly, by the method used I uniformly obtained from migrainous urines poisonous "final fluids," and from non-migrainous urines non-poisonous "final fluids." If the faulty technic which I used had left in my "final fluids" sufficient ammonia to account for their toxicity, then all of these fluids would have been toxic, and not alone those derived from migrainous urines. The "final fluids" from the very large number of migrainous urines which I have examined must therefore have contained toxic ingredients other than ammonia, and these I believe to have been the xanthin bodies. Thirdly, my "final fluids" retained their toxicity when they contained so small an amount of ammonia that that agent alone could not have accounted for their toxicity. This fact I presented in the discussion on Dr. Pfaff's paper before this Association, May 4, 1899, and I then detailed some experiments which led me to believe that the ammonium compounds of the xanthin bodies were important agents in producing the auto-intoxications, which are etiologically related to migraine, and other lithemic manifestations.

These observations suggested to me the foregoing research on the comparative toxicity of such ammonium compounds as may possibly play a rôle in producing symptoms of systemic intoxication, and also encouraged me to further investigate the toxicity of the ammonium compounds of the xanthin bodies.

In these experiments, which I have carried on at intervals during the past two years, I have worked not only with pathological urines, but also with large quantities (30 to 70 gallons) of normal urine, which I obtained from patients in the Cincinnati Hospital.* From these specimens of normal urine I prepared "final fluids" containing the xanthin bodies†. After testing the toxicity of these "final fluids," the amounts of ammonia they contained were carefully estimated‡. and then every trace of ammonia was eliminated from these "final fluids," and their toxicity again tested.

From these experiments I have reached the same conclusions which I expressed before this Association three years ago; namely, that the xanthin bodies were the important toxic principles in my "final fluids," but that their toxicity was increased by small quantities of ammonia in combination with them. The quantites of ammonia, however, required to markedly increase the toxicity of these "final fluids" was much too small to give toxicity to any of the inorganic acid ions studied in this paper.

In this series of experiments the amounts of ammonia in a *toxic dose* of my "final fluids" varied from .0008 to .0003 grams.

From these experiments I am prepared to state that the toxicity of my "final fluids" was not due solely to the ammonia they contained, but also to other toxic agents found in migrainous, though not in normal, urines, without which the ammonia would have been innocuous.

For these reasons I adhere to the belief that the ammonium compounds of the xanthin bodies gave toxicity to my "final fluids," and that these same compounds are toxic agents in producing migraine and other lithemic disorders which I have described in my previous papers as being due to the xanthin bodies alone.

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* In this work I have been assisted by the following resident physicians: Dr. Shaler Berry, Dr. W. H. Stix, Dr. H. L. Woodward, and Dr.D. M. Baehr.

† For method see "Transactions of Association of American Physicians," Vol. 10.

‡ Some of these ammonia estimations were made by Dr. W. H. Crane.

This opinion seems altogether tenable when one remembers that a functionally incompetent liver, which is an important etiological factor, not only of migraine, but of all lithemic conditions, may, by the failure of its urea-forming function, throw into the general circulation sufficient ammonia to combine with the uric-acid leucomains which are also thrown into the circulation by the failure of this selfsame function, in this way diminishing the excretion of the urea and increasing the excretion of ammonia and the xanthin bodies.

ACUTE AND CHRONIC TUBERCULOUS PHTHISIS, WITH CASES.*

BY J. CARDEEN COOPER, M.D.,
OF PHILADELPHIA.

THE doctrine of the communicability of phthisis is as old as the history of medicine. Even the educated laity among the early Grecians, as taught by Plato and Pliny, believed in the communicability of phthisis and used preventive measures. Physicians in every age have held that the disease is communicable when patients are in close proximity, as in the same living-apartments or occupying the same bed, or to those attending upon or nursing the sick. Yet long-continued proximity to the causes of phthisis usually involves causative agencies other than contagion. The elements of contagion were for a long time thought to be contained in and conveyed by the expired breath; in fact, many theories were held in the absence of any exact knowledge. Villemin in 1865 demonstrated the fact that this disease could be communicated to rabbits and guinea-pigs by inserting beneath the skin portions of the tuberculous product, and further observed that some animals were much more susceptible to inoculation than others. Flint, writing in 1881 upon the communicability of phthisis, refers to a collection of 670 recorded cases of the disease, with the very remarkable statement that the number of instances in which there was indication of the disease having been communicated, either from the husband to the wife or the wife to the husband, amounted only to five. Since the discovery of the specific organism of phthisis, known as the tubercle bacillus, by Klebs, Aufrecht and Koch, the nature and manner of life of this organism have been more or less understood. That it passes through stages of development and growth for a number of series or generations of germ life; that it is capable of being conveyed from one animal to another, and that it is almost uniformly found in the secretions or tissues of those suffering from the symptoms of phthisis—these facts have been established, and from this standpoint the disease has been most thoroughly studied. Physicians are now quite generally agreed that the disease is both hereditary and inoculable; that the tubercle bacillus reaches the human subject first through the channels of hereditary transmission, principally by the blood and placental tissue of the mother, as taught by Osler; secondly, by transmission through inoculation, which is not a very fruitful source of tuberculosis, and thirdly, through infection by inhalation, as in breathing dust laden with tubercle bacilli, and infection by milk or meat obtained from animals suffering with tuberculosis.

Acute Phthisis.—The first division of our subject, acute phthisis or galloping consumption, is by no means a rare disease. It occurs in both children and adults; more commonly between the ages of twenty and thirty years. In the adult it is frequently mistaken for acute lobar pneumonia, and in children for bronchopneumonia. In children the disease sometimes follows whooping-cough or measles. In the adult the causes are more closely related to hereditary tendencies, together with "run-down" system, acute cold, which is probably contracted because of the presence of the tubercle bacillus in the system, prolonged exposure and nervous fatigue.

Symptoms.—The disease usually begins with a chill or series of chills, followed by high fever and rapid pulse, restlessness and short breathing. Usually some considerable portion of the lung tissue is airless, almost always with impaired resonance of the apices. The breathing-sound is harsh, and if consolidation is present over any considerable area of lung tissue the presence of tubular and bronchial breathing is shown. The symptoms are almost identical with those of pneumonia, except that the temperature continues with less variation and the usual crisis of pneumonia is not reached. Upon the establishment of expectoration the sputum is copious, and is found to contain tubercle bacilli and elastic tissue. The patient rapidly loses strength and weight. Hemorrhage may occur at any time during the course of the disease. In a few weeks the apices soften rapidly, some of the bronchioles become stopped with sputa, the lung tissue breaks down, and the case terminates fatally in from six to ten weeks. On the other hand, a long crisis extending over many months may occur; the fever lessens, the general symptoms moderate, and the patient drags on to become a chronic case. I desire to present three cases.

Case I.—M. B., female, aged twenty-one years; height, five feet three inches; weight, 124 pounds; unmarried. Father, mother and two brothers living, in good health. Maternal grandmother died of phthisis. Patient said she had always been well. After attending a ball, stood upon the porch in a cold wind for an hour. Complained of feeling badly the following day; in the evening had a severe chill followed by rapid pulse and high fever, difficulty and slight pain in breathing. Upon examination the case presented the typical symptoms of acute pneumonia of the right side. Expectoration was established the latter part of the second week, and was found to contain tubercle bacilli. During the third and fourth week rapid loss of weight began to be noticeable, and it continued, together with occasional night-sweat, abundant expectoration and complete loss of appetite, throughout the course of the disease. During the seventh week the patient had a paroxysm of coughing which produced a hemorrhage of considerable extent. The disease progressed with marked softening of the lung tissue, more especially upon the right side, and at the end of the tenth week the patient died.

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* Read before the North Branch of the Philadelphia County Medical Society, May 15, 1902.

Case II.—J. S., male; fairly well-developed and well-nourished baby of twenty months. Father, mother and one brother living. One sister had died at the age of two and one-half years of what was pronounced spinal meningitis. Two weeks after recovering from a severe attack of whooping-cough, and after all coughing had ceased, the child was allowed to sit for some hours upon a bench in the park. During the night he became restless and feverish. In the morning he presented the usual symptoms of pneumonia—high temperature, rapid pulse and breathing, entire right lung airless, with harsh râles distributed over upper portion and over left lung. The little patient lived four and one-half weeks, with continued fever and marked loss of flesh and all the symptoms of acute bronchophthisis. No microscopical or postmortem examination was made.

Case III.—E. M., female, aged twenty-six years; height, five feet four inches; weight, 120 pounds; married; family history good. Said she had always been well, with the exception of rheumatism four years previous. After having attended an afternoon and evening lawn-party, at which she stood continuously, she was attacked during the night with severe pain in region of left pleural wall, low down, accompanied by chill, and followed by high fever. I found the patient nervous, with rapid pulse, short breathing, and lower portion of left lung consolidated. Marked impairment of resonance of the apices and deep râles at base of left lung. During the third week of the disease the sputum was examined and found to contain tubercle bacilli and elastic fiber. The patient continued to be very ill, with loss of weight, for four weeks. Then the symptoms slowly modified. Afternoon temperature continued to be present during the next two months, with copious expectoration and considerable loss of flesh. At the end of the fourth month sputum was again examined with the same results. The case presented every evidence of running into chronic phthisis. Was directed to make a change of climate. After a residence of 14 months in the mountains she returned home in good health, no cough, no expectoration.

Chronic Pulmonary Phthisis, or Chronic Ulcerative Tuberculosis.—This introduces the second division of our subject. In typical cases pulmonary phthisis of the chronic type is so mildly and imperceptibly developed as often in the very early stages to be unnoticed by the patient. Yet not a few cases begin with pronounced symptoms and even with hemorrhage.

The causes of this disease may include: A diathesis on the part of the patient; hereditary sensitivenss in this direction; the presence in the system of the tubercle bacillus in some of its forms of development; confining occupation in poorly ventilated rooms. Clerks and artisans of all kinds, especially those engaged in occupations in which a fine dust is emitted, as watch-makers, stone-cutters, artists or sculptors. The malady is especially a house-disease, and Frautley believes that those who drink very little water are particularly subject to phthisis. The theory held at one time by many eminent physicians that every human body contained the germs of all diseases in submission, and that debilitating circumstances of life, such as poor food, overwork, bad air, and improper hygiene in every respect would develop the germs and the diseases along the lines of least resistance—this theory may at least have a relative truth in phthisis. But conversely, it was long and largely believed that pneumonia, bronchitis and diabetes produced and acted as causes of phthisis. It is more probable that cases of recurring pneumonia and bronchitis are from the beginning phthisis caused by the tubercle bacilli.

What are the symptoms most commonly noted? The first local symptom is usually a slight, dry cough. As this cough increases slight expectoration is noticed. The quantity and character of the matter expectorated in the early stages depend on the degree and the extent of the bronchial inflammation. In mild and non-progressive cases the disease, or at least the inflammatory nature of it, is principally confined to the bronchial area. In the progressive character of the disease, and in cases in which cavities have formed, the expectorated matter is purulent and pus-like. The sputa may contain tubercle bacilli and elastic fiber at any or all of the various stages of the disease.

A very simple method of discovering the elastic tissue may be mentioned. Collect all the sputum over a period of 24 hours; add an equal part of solution of caustic soda (208 to ounce of distilled water), and boil the mixture thoroughly; then add cold water slowly. The elastic tissue will precipitate, and can be seen with the naked eye, or with microscope if preferred. For discovering the tubercle bacilli the Ehrlich-Weigert method is best, or Flexner's modification, or that described by Osler as follows: "To saturated solution of fuchsin in absolute alcohol is added solution of commercial anilin oil. A small portion of sputum is spread thin on the glass top cover, and slowly dried. The staining-fluid is then dropped upon the top cover and held over the flame until it boils. The staining-fluid is then washed off in distilled water, rewashed if necessary, and decolorized with 30 per cent. nitric acid, fluid again washed and mounted on the slide. The tubercle bacillus will appear as a short, fine rod, slightly bent."

Hemoptysis occurs in a large proportion of pulmonary phthisis and may occur at any stage. Fever is an almost constant symptom of phthisis, and the thermometer is usually the best guide to the progress of the disease. To get a correct idea of temperature range, as Osler and Renger have pointed out, it is necessary to make observations from four to six or eight times during the 24 hours. In the early stages of the disease the temperature is intermittent, and amounts to fever in the afternoon and evening, becoming normal in the early morning. In the middle and later stages of the disease the temperature is remittent, a condition in which it is constantly above normal, but drops two or three degrees in the morning hours. Many early symptoms resemble those of malaria, and in malarial districts phthisis is often mistaken for malaria. Sweating is a common symptom. Loss of flesh is usually gradual but persistent, the round, full cheek and supple limbs of health giving way to sunken pallor and skeleton-like extremities. The long, narrow chest, flat in front with projecting scapulæ, the oval finger-nail and progressively enlarged finger-ends, are frequently seen in phthisis.

In the early stages expansion is impaired upon one or both sides. Resonance is defective, and the percussion-note high-pitched in the apices. With the progress of the disease the respiratory murmur is harsh, and when consolidation occurs is bronchial in nature. Deep, harsh râles are heard throughout the lung. When consolidation is extensive or cavities formed, tubular breathing, with an amphorbic quality, is noticed. As pleurisy in some of its forms is usually associated with advanced phthisis, friction and tearing sounds may almost always be heard along the chest-walls.

Dyspepsia is a very usual and persistent symptom, sometimes with constipation, but more frequently with diarrhea, particularly in the later stages.

In young subjects, especially girls with chloro-anemic diathesis, dyspepsia with flatulence and aversion to food, with palpitation of the heart, weakness, amenorrhea and marked nervous symptoms are present. Pain in the chest is not an infrequent symptom, although many patients experience no pain. I will now present three cases.

Case I.—A. L., female, aged twenty-two years; unmarried; occupation, saleswoman; father, two brothers and one sister living. Mother died of pneumonia, and a maternal aunt died of phthisis. General appearance good; color and figure well developed; height, five feet three inches; weight, 124 pounds. Chest flattened over clavicle, and somewhat narrow. Complained of slight yet persistent cough, without expectoration. Heavy aching pain on the left side of thorax; some loss of appetite. Examination revealed slight dulness, high-pitched resonance breath-sounds at apices, faintly discernible râles on left side. No fever at this time. For two months these symptoms remained nearly constant, with the exception of slight loss of weight, occasional fever of one degree elevation, and increased expectoration. The sputum was then examined and found to contain tubercle bacilli. During the next four months the patient improved, having taken a vacation, and the cough and expectoration abated. After her return to work the conditions remained stationary, with some increase in cough, for a period of six months. At this time a cold was contracted, resulting in pneumonia of the right lung, which ran a prolonged course, ending with a cavity of the right lung. At this time tubercle bacilli were present in the sputum in abundance. The patient lived two years after the pneumonia, with the usual symptoms of progressive phthisis.

Case II.—M. C., male, aged twenty-six years; unmarried; occupation, telegraph operator; family history good, excepting one brother, who died of alcoholism at forty years; height, five feet seven inches; weight, 148 pounds. Complained of continually catching cold and of sore throat and impairment of voice in the after part of the day. Slight cough in early morning, with expectoration. I found the patient suffering with laryngitis and bronchitis, and kept him under observation for two months, at the end of which time the cough had increased, with more abundant expectoration, and almost total loss of voice in the afternoon of each day. There was great aversion to food, accompanied by flatulent indigestion. At the end of the third month deep râles could be plainly detected over the lung tissue, with tubular breathing upon the right side, slight fever, and an occasional night-sweat, with loss in weight. At this time the sputum was examined and found to contain tubercle bacilli. At the tenth month complete aphonia existed, and the loss in weight had been considerable. At this time I advised the patient to change his occupation, which he had not been following for two months, and to take up light work on a farm. This he did, and began to improve; the stomach became stronger; a desire for food returned; the night-sweats ceased; digestion improved, and work became less fatiguing. At the end of five months he ceased coughing, and in two years became practically well.

Case IIIs—C. B., male, aged thirty-two years; married; height, five feet six and one-half inches; weight, 150 pounds; father died of phthisis; mother and three brothers living, all healthy; occupation, carpet-weaver. The patient stated that about a year before his first visit he had passed through a long and severe pneumonia. I found the apices much affected. There was a cavity in the lower lobe of the left lung, which he refused to have drained. Slight continued fever; no cough. Three weeks later a paroxysm of coughing caused a quantity of pus to flow from mouth and nose. I was hurriedly summoned. A bistoury was plunged into the abscess between the eighth and ninth ribs. Forty-six ounces of pus was caught in a vessel. A silver drainage-tube was placed in the cavity. The patient rallied, and was kept in bed two months, with forced feeding. During this time fever abated somewhat, and general conditions improved. With the assistance of Dr. T. O. Nock and Dr. F. M. Strouse, the eighth, ninth and tenth ribs were then resected at three-fourths of their length from the sternum end. The tube was kept in the cavity, which was washed daily. The patient was sent to the country, where he remained in fairly good health for two years. He returned to his occupation of weaver, and remained at work more or less steadily for four years. One year was then spent in camp-life in an adjoining State. Six months after his return to Philadelphia he suffered an acute attack of pneumonia on the right side. Two weeks after this attack the first examination of sputum was made, and it was found to contain large amounts of elastic tissue and tubercle bacilli. The pneumonia ran a course of four weeks, with high fever. Again the patient improved slightly, the temperature becoming normal for a short period in the morning, and he lived for 14 months in a condition of the most extreme emaciation that I have ever witnessed.

MEDICAL PROGRESS.

NEUROLOGY.

Adaptation of Nerve-Cells to Functional Hyperactivity.—Whether or not the appearance of nerve-cells subjected to stimulation by electric currents of increasing strength, at frequent short intervals, justifies the idea of a possible adaptation of the cell to such stimulation, is a problem the solution of which has been sought through animal experimentation by G. de Pastrovich and C. Ceni (Arch. Ital. Biol., vol. xxxvii, fasc. ii, 1902). Examination of the nerve-elements was made in animals to which electrical stimulation of gradually increasing intensity was administered; and as a control a second series of examinations was made in animals to which the maximum electric current used in the first series was at once applied. Changes noted in the nerve-elements of animals treated after the latter method were: Laceration of nerve-cells; displacement of the nucleus (the latter being sometimes detached from the cell-body, though its form was preserved); constriction of the protoplasmic prolongations at the cell-end, or detachment of the former from the cell. In those animals to which the current was applied with gradually increasing intensity the nerve-elements were practically intact; a few cells, however, showed dissolution of the chromatic substance, especially in the nucleus, the latter being in some instances entirely empty. The changes observed in the first series are considered as mechanical; those in the second as biochemical alterations analogous to those seen in nerve-cells subjected to the action of toxic agents, as in infectious diseases or in poisoning. The deduction drawn is, that the nerve-cells of the rabbit and dog possess the power of adaptation to the functional hyperactivity caused by repeated applications of the electric current.

Calcium in Epilepsy.—Having noted in numerous epileptic cases deficient absorption and elimination of calcium, E. Audenino and A. Bonelli (Rif. Med., September 5, 1902) administered various preparations of that drug by mouth and hypodermatically in 14 epileptic cases. A decrease in the number of seizures followed in nearly all the patients' treated, diminution or increase in the frequency of the attacks corresponding to increased or diminished absorption of the calcium. In a few cases which were uninfluenced by the treatment it was ascertained that the entire amount of calcium administered had been eliminated in the feces.

Sciatica and Atropine.—The treatment of sciatica is a difficult matter, because the origin of the disease is so difficult to reach. S. C. Felt (Sem. méd., No. 36, 1902) has been treating this trouble for some time with large subcutaneous injections of atropine. Although these large doses determine the usual symptoms of intoxication more or less distinctly, they appear to have a decidedly beneficial result upon the pain. This observer takes 0.06 grams of atropine in 100 drops of water, and of this injects three drops at night, about 10 cm. below the buttock of the affected limb. In about 20 minutes all the physiological effects of the alkaloid in question appear; namely, acceleration of the pulse to 120, dilatation of the pupil, more or less vertigo and intense thirst. If these signs disappear in less than 10 hours he supposes the reason to be that the dose was insufficient. Felt therefore increases the dose by one drop until these symptoms of intoxication continue for 24 hours. A second injection must not be given, however, until all the symptoms of the first dose disappear; consequently only one injection a day is required. He has now treated 28 patients in this manner, including himself, with a record of 22 definite cures.

EYE, EAR, NOSE AND THROAT.

Ichthyol in the Treatment of Keratitis.—The great variety of means for treating keratitis is sufficient evidence of the difficulties in the management of this disease. I. I. Federov of Pensa (Sem. méd., September 24, 1902) reports that he has succeeded in treating superficial infiltrations of cornea with small ulcers by means of applications consisting of an ointment composed of 0.10 grams of ichthyol and 0.15 grams of cocaine, in 5 grams of excipient. Under the influence of these applications the signs of inflammation rapidly decreased and the pains disappeared. The newly formed blood-vessels, so common in this disease, also fade away. The tissue of the cornea regenerates, and as a rule only a small portion of the opacity remains. The record of his cases now reaches 28, of which 22 were either trachomatous or blennorrhagic.

A Case of a So-called Glaucoma Fulminans.—Dr. Dombrowsky (Prac. Vratch, No. 28, 1902) considers this case of great interest, in the first place, on account of the rapidity of its development. On the fifth day of the disease the glaucoma in the right eye changed into an acute panophthalmitis, and the eye was lost, while the left eye was also lost a few days later from acute inflammatory glaucoma. The second point of interest is the fact that the etiology of the case seems to be perfectly clear. The patient never had any eye-disease before. One night he drank excessively, came home, found the door of the bedroom locked, and slept part of the night on the floor of a very cold vestibule. He slept on his right side. The next morning he felt a slight indisposition, and in the evening of the same day the disease was fully developed. The etiological moment then seems to be clearly that of exposure to an acute cold, and the author questions whether in some cases the etiology of an acute inflammatory glaucoma is not very near to the etiology of acute articular rheumatism.

Complications from Cataract Operations.—Two unusual complications following upon operations for cataract are reported by T. R. Pooley (Med. Rec., September 13, 1902). The first was a case of diabetes in which the symptoms had been under treatment for some time with apparent benefit and no serious results were to be anticipated. The operation was performed under cocaine without incident, but symptoms of diabetic coma soon developed and the patient died in six days. The second was an alcoholic man who had previously suffered from delirium tremens, but this part of the history was withheld. Soon after the operation delirium began, and in spite of most active treatment it was impossible to sufficiently restrain him, and a prolapse of the iris with subsequent infection followed. These instances simply impress one with the necessity of thoroughly examining the patient's condition before operation and carefully preparing him for the ordeal although it may be considered a slight one.

MEDICINE.

Diagnostic and Prognostic Importance of Hematemesis.—Many and varied are the conditions which lead to vomiting of blood and W. JANOWSKI (Zeitsch. klin. Med., vol. 46, Nos. 1-4) enumerates them as follows: (1) Primary disease of the stomach, such as ulcer, cancer, erosion, perforation and acute exulceration following the action of caustics; (2) congestion or inflammation of organs supplied by the same vessels as the stomach; (3) constitutional disease, such as Werlhoff's disease, scurvy, plague, sepsis, leucemia, etc.; (4) when the stomach is irritated by the blood coming from other parts such as the nose, mouth or esophagus. It is a significant fact that blood in the stomach acts as a foreign body which incites to vomiting, and the importance of a careful examination of the nasopharynx in obscure cases is evident. Very often doubt exists as to whether the blood comes from the stomach or the lungs, for although from the former organ it is dark, acid and mixed with food, and from the latter brighter, alkaline, and intermingled with air, this difference does not always hold, since with a pulmonary hemorrhage the blood may first be swallowed or may be coagulated and changed in a cavity and since with gastric bleeding the amount may be so profuse that it may be brought up unchanged and perhaps partially aspirated and coughed up. Other rarer causes are perforated aneurisms of the aorta, duodenal ulcer and hysteria. Among the different caustics, those most frequently causing hematemesis are acetic acid, lye and the mercury salts. The color of the vomited blood depends upon the amount of acid in the stomach; if this is normal the color is already dark after five minutes, so that a bright red tinge generally speaks for profuse bleeding, such as occurs with ulcer. When the color and microscopical examination are not sufficient for diagnosis, chemical tests must be applied and the most accurate of these is performed by adding one-third the amount of acetic acid and as much ether, shaking and then decanting the latter and adding 5 to 10 drops of tincture of guaiacum, and 15 to 20 drops of old oil of turpentine when a violet color, intensified by chloroform indicates the presence of blood. In Werlhoff's disease, yellow fever, plague, sepsis, etc., the vomitus is acid, dark and suggestive of coffee-grounds, or even tarry, since the normal secretion of the stomach generally goes on. The prognosis depends of course upon the amount of blood lost, and the character and severity of the underlying disease, and the importance of a correct estimation of the severity is perhaps greatest in case of ulcer, since the first hemorrhage, though slight, is followed by increased secretion of acid, which has a tendency to dissolve off the protective covering and thus lead to perhaps more severe recurrences. In most of the other diseases, hematemesis is a bad sign.

Hemorrhagic Erosion of Stomach.—It is only recently that gastric erosion, a frequent find at autopsies, has come to be regarded as a distinct and separate disease. Anatomically the erosion is very superficial and involves only the upper part of the mucous membrane, while the deeper structures show a round-cell infiltration. S. MINTZ (Zeitsch. klin. Med., vol. 46, Nos. 1-4) has observed two cases and finds that there generally is gastric pain and a sense of great weakness with emaciation, while objectively the presence of small particles of mucus after lavage with the organ free from food is characteristic. The pains are never as intense as with ulcer, are not restricted to a circumscribed area of the stomach, and begin ¼ to ½ hour after feeding, to last two or more hours. Vomiting may also occur and may simulate nervous emesis. The chemical analysis of the stomach is of no value, since all degrees of acidity may exist; neither does the motor function suffer any constant changes. Treatment demands lavage with one to two pro 1,000. silver nitrate solution and the administration of large doses of bismuth. In general, the food should be somewhat stimulating, and accessary measures are endogastric galvanization, hydrotherapy, condurango, nux, iron and change of climate.

Fatty Transudates.—Milky fluids in serous cavities may have a two-fold origin through transudation of chyle from the lymphatic vessels, or through fatty degeneration of morphological element. S. MUTERMILCH (Zeitsch. klin. Med., vol. 46, Nos. 1-4) finds that the diagnosis can only be made by microscopical examination, for in the latter class the droplets of fat occur in aggregations which show that they belong to a cell. It is, however, possible that the degenerative process may go so far that the outline of the cells is no longer apparent, when the presence of more than a trace of glucose and the increase of the milkiness with a fatty diet will speak for the lymphatic origin. Certain authors have even gone so far as to feed with special forms of fat, then examining for these in the transudate. The appearance, specific gravity, amount of albumin, lecithin and cholesterin are of no importance, and in many even the microscopical examination is unsatisfactory.

Aneurism of Hepatic Artery.—The symptomatology of heptic aneurism is discussed by A. SOMMER (Prag. med. Woch., September 8, 1902), who describes the typical picture as including pains in the right hypochondrium or epigastrium, intermittent jaundice and repeated, profuse hemorrhages from the upper part of the bowel. With the great rarity of the condition, the diagnosis is made but seldom, and cholelithiasis or duodenal ulcer is generally thought of especially since all three symptoms do not always occur together. The most constant of these is the pain. In the pathogenesis trauma plays an important rôle, and rather often there is a history of some preceding infectious disease, such as pneumonia, typhoid or osteomyelitis, so that a certain number may be mycotic in origin.

Traumatic Nephritis.—That a nephritis may develop secondary to severe abdominal injury, it is important to decide for legal reasons, and the case of H. CURSCHMANN (Münch. med. Woch., September 22, 1902) makes it seem probable, for the only possible cause of constant albuminuria with cysts was the occurrence of a severe, almost fatal fall several years prior to the examination. It is likely that the lesion in these cases is a strictly circumscribed, interstitial process. The absence of all changes in the circulatory organs was characteristic and spoke for the involvement of only a small portion of renal tissues, enabling the urea, etc., to be excreted as before. It is possible that many obscure cases of albuminuria may have a similar origin.

PATHOLOGY.

Simple Method for Quantitative Estimation of Albumin in Blood.—The following method is given by A. JOLLES (Münch. Med. Woch., September 23, 1902) as surpassing others in simplicity. By means of a pipet, 0.2 c.c. of blood is removed from the lobule of the ear and dissolved in about 120 c.c. of water, which is heated to boiling with one c.c. of sulphuric acid. A permanganate solution containing eight grams per liter is then added until the precipitate no longer dissolves. The solution is then concentrated to 25 c.c. and neutralized with lye, and finally the nitrogen determined in a special azotometer with a hypobromite solution. Of the cases on which this method was tested it was found that the amount of albumin is diminished in diabetes, cirrhosis, catarrhal jaundice, leucemia and anemia, is normal in syphilis, Basedow's disease and chronic nephritis, and increased in acute nephritis and in the fever of influenza.

Influence of Bile upon Resistance of Red Cells.—The increased resistance to sodium chloride solutions observed in the red cells of icteric patients has been variously interpreted. G. Viola and B. Tarugi (Rif. Med., September 16 and 17, 1902) have made a study of the subject through observation of the influence of the bile upon corpuscular resistance in vitro and in the circulation, comparison of results thus obtained being made with corpuscular resistance in 10 clinical cases of icterus. The question was especially considered from the standpoint of Chanel's hypothesis; *i. e.*, that in icterus resistance is increased by the bile-salts through their power to destroy the least resistant red cells. Ample proof of the hemolytic power of bile over such cells is afforded by the experiments in vitro and by the results of injection of bile into the blood. Not so was it, however, in the clinical cases, for there was actual increased resistance of all red corpuscles—as measured by the authors' special method—in the majority of icteric cases, whether acute or chronic. The authors believe that a special condition, the exact nature of which is not known, exists in icterus, which acts through the plasma upon all the red cells, causing an actual increase of their resistance; and as this action is not exercised when bile is brought in direct contact with the blood, it follows that it is not attributable to any of the normal constituents of bile.

SURGERY.

Therapy of Hour-Glass Stomach.—The surgical treatment of hour-glass stomach is frequently more difficult than other operations on the stomach, since the anatomical relations may be very considerably altered and it may be difficult to decide which procedure is best. The following operations are given by A. Schmitt (Münch. med. Woch., September 16, 1902): (1) The digital or instrumental dilatation of the stricture; (2) gastroplasty, on the type of pyloroplasty; (3) gastro-anastomosis; (4) gastro-enterostomy; (5) resection of the strictured portion, and (6) a combination of all these various methods. Gastro-enterostomy ensures the promptest and safest emptying of the stomach and most successfully prevents the formation of new ulcers. The communication must be made with the distal sac, which generally is sufficiently large, and it is the method of preference where adhesions do not make it impossible. Gastro-anastomosis is another excellent procedure, especially when the communication is made below the stenosis near the greater curvature, since otherwise a spur is formed. It is indicated where the cardial portion is much the smaller, where the two sacs can easily be approximated, where the cicatricial tissue is not too broad, and where other ulcers probably do not exist. Gastroplasty is the quickest and easiest of all, but has the disadvantages that the incision must be made in poorly nourished scar-tissue, that an ulcer may be unwittingly cut into, and that a secondary contraction may occur. It is indicated where the scar is small and yet the stenosis marked, where other ulcers and adhesions, especially in the pyloric region are absent, and where other operations are not feasible on account of immobility of the parts or poor condition of the patient. The chances of doing a total transverse resection are but few since this requires a small movable scar without adhesions and with good general condition, and there is some danger of a giving of the sutures. Simple dilatation is hardly ever permissible. The congenital hour-glass stomach rarely requires treatment, but for the acquired, an early operation is always indicated, and it is best not to wait until the patients are emaciated by months of suffering.

Cancer of the Penis.—Partial amputation of the penis should never be thought of in case of carcinoma, for the extreme vascularity of the organ makes the spread of the disease rapid, and the only chance of complete recovery lies in the early radical extirpation of the organ. E. W. Lee (N. Y. Med. Jour., September 20, 1902) has performed 11 total amputations and has never known of a recurrence when the disease was confined to that organ at the time of operation. The diseased pendent portion of the organ is wrapped in carbolized gauze and the parts thoroughly sterilized. The penis should be transfixed near its root by two straight needles and a rubber band placed between them. The pendent portion is then removed and a median incision made through the scrotum, the two halves being separated down to the corpus spongiosum by blunt dissection. A metal catheter is then passed, the ligature being slightly loosened. The corpus spongiosum is then dissected away from the corpora cavernosa and the urethra cut transversely behind the ligature. The urethra is then sutured into the posterior extremity of the median incision behind the scrotum, and the crura of the cavernosa are removed from the pubic arch by the use of periosteal elevators. There may be some extravasation of urine into the scrotal tissues, but no serious consequences are liable to occur.

Cure of Wounded Liver by Tampon.—An interesting case of incised wound of the liver is reported by E. Fortun (Rev. Méd. Cir. Hab., September 10, 1902). The wound, which was four cm. long, was at first supposed to be confined to the skin, and was accordingly sutured. Evidence of internal bleeding becoming manifest six hours later, the wound was reopened, and exploratory laparotomy revealed a wound of the liver some six cm. in depth. A suggestive feature in the treatment of the wound by tamponade is the final control of hemorhage by saturation of the gauze tampon with gelatin (five per cent.), two severe hemorrhages at intervals of 48 hours having necessitated the removal of the plain gauze previously employed. The patient made a good recovery within 30 days.

Perforating Ulcers of the Duodenum.—In 1900 this subject was most carefully and thoroughly worked up by Dr. Robert F. Weir, who delivered an address upon it before the American Surgical Association. Nineteen additional cases in which operation was done have been collected by J. B. Murphy and J. M. Neff (N. Y. Med. Jour., September 20, 1902), and the salient points of the disease are reviewed. Duodenal ulcer is the cause of death in from 0.2 to 0.4 per cent. of cases, and the ratio of gastric to duodenal ulcers is about twelve to one. They may occur at any age, but most frequently between thirty and forty or from forty to fifty. The great majority of duodenal ulcers are formed in males. Out of 176 cases reported by Weir 144 were found in men. Among coincident lesions which seem to have some relation to duodenal ulcers are mentioned burns, kidney disease and pulmonary tuberculosis. The association between these conditions is difficult to explain. An embolus entering the circulation at the site of a burn may cause a septic infarct in the wall of the intestine. The sclerosis of arteries accompanying kidney disease may account for the diminished arterial supply of areas within the gut. The most widely accepted theory in regard to the causation of duodenal ulcers is that they are due to the same cause as gastric ulcers. Hyperchlorhydria is an essential factor. The duodenum is not protected from the acidity of the gastric juice above the papilla, through which empty the secretions from the liver and pancreas, and it is in this first portion that nearly all ulcers occur. Local infection embolism, or thrombosis and foreign bodies are also given as efficient causative factors. Perforation occurs in from 40 to 60 per cent. of cases and may lead into the general peritoneal cavity; the retroperitoneal tissues or adhesions may form to one of the adjacent organs and perforation occur into it. Either a general or localized peritonitis may follow, depending upon the location of the perforation and the formation of adhesions. The three cardinal symptoms in their order of importance are: (1) Pain; (2) melena or hematemesis, and (3) vomiting. The pain resembles that of gastric ulcer, but is usually less severe and may radiate downward or to the back. It is about one inch below the gall-bladder, and when characteristic comes on from two to four hours after eating. It may be sudden in onset and colicky in character. Hemorrhage may manifest itself either through the stomach or bowel, usually by the latter route. Weir states that it occurs in about one-third of the cases. Repeated small hemorrhages may cause death before the blood appears externally. Vomiting is relatively rare, being present in only about 17 per cent. of cases, and is not usually characteristic unless it comes on from two to four hours after eating. Icterus is rare. It is important to note that in one series of cases no history of trouble could be elicited previous to perforation or the presence of hemorrhage. The symptoms of perforation are usually sudden and violent in their onset, generally coming on after the ingestion of a meal. Pain, which is very severe and usually referred to the epigastrium, is the first symptom, but it frequently is later referred to the right iliac fossa, due to the gravitation of the fluid in that direction. The subsequent course of the symptoms depends upon the location and extent of the peritonitis. The conditions which must be thought of in diagnosis are: (1) Gastric ulcer; (2) cholelithiasis; (3) hyperacidity without ulcer; (4) acute fat-necrosis, and (5) intestinal obstruction. It is frequently impossible to distinguish it from gastric ulcer, but duodenal ulcers occur more frequently in men; the pain appears later after meals; vomiting does not relieve pain, and is more rare than in gastric ulcer. Dyspeptic symptoms are slight and melena is more frequent. Acute fat-necrosis is the most difficult disease in which to make a differential diagnosis. The pain in both is intense, but the collapse and depression are usually more pronounced in fat-necrosis. One very important point, ever, is that there is no leucocytosis in acute fat-necrosis, while pronounced leucocytosis with a primary elevation of temperature is the rule in perforation. The success of treatment depends upon the time of operation largely, for a general peritonitis is almost certain to follow. The abdomen should be opened by an incision four to six inches long in or along the right border of the rectus, and the appendix and gall-bladder first inspected. When the perforation is found the intestine should be freed and the opening closed by a double or triple line of interrupted silk sutures of the Lembert type. The failure to free the intestine from the neighboring tissues is the usual cause of failure in the operation. Irrigations should not be used unless there is a pronounced destruction or exfoliation of the endothelium of the intestines.

Gunshot Wounds of Abdomen.—A remarkable case, in which there were 18 perforations of the intestines as a result of a gunshot wound, is reported by R. F. AMYX (Med. Rec., September 20, 1902). A laparotomy was done within two hours of the accident, and even in that short space of time adhesions had formed between the omentum and the colon and cecum, entirely shutting in the small intestines beneath the omentum. Two perforations were found in the ascending colon and the others in the small intestines. The contused tissues around each perforation were excised and the wounds closed by the Czerny-Lembert suture. As there were 12 perforations found in a section of the jejunum not more than 11 inches long, this segment was excised and a Murphy button used. The peritoneal cavity was flushed out with saline solution, and 12 gauze drains were inserted into the various recesses of the peritoneal cavity as follows: Above the omentum; below the omentum; above and below the mesentery; into the pelvis, and up toward the liver. It is very important that drainage should be instituted, for the bullet always carries with it the contents of the intestines or organ through which it passes, and even thorough irrigation is seldom sufficient to remove all infective material. The drains should not be removed for five or six days and then only a small portion should be withdrawn at a time.

BACTERIOLOGY.

Bacillus of Malignant Edema.—A cultural and biological examination of the bacillus of malignant edema, conducted by R. GRASSBERGER and A. SCHATTENFROH (Münch. med. Woch., September 23, 1902) led to the following results: The bacillus shows on the different media the same shape and grouping, and after treatment with iodine a large amount of granulose is always detected. It is a strictly aneorobic bacterium, with abundant flagellæ, and spore-formation is a prominent feature, especially when grown on sterile meat. The colonies on gelatin consist of cystic spaces filled with a turbid fluid; those on agar show many branches into the surrounding medium. Both fermentation and putrefaction can be induced, but the latter process cannot advance very far, since the bacillus lacks the power to redissolve the coagulated albumin. In milk the casein is precipitated with slight gas-formation. The growth on solidified cow-serum is characteristic, since it is very rapid, with the formation of gas and fluid and the development of a urinose or sulphurous odor. The soluble toxins could not be concentrated. For guinea-pigs the bacillus is very highly virulent, and its powers are not diminished by passing through the bodies of the animals.

THERAPEUTICS.

Treatment of Erysipelas with Diphtheria Antitoxin.—DR. ZWETAEFF (Prac. Vratch, No. 22, 1902) has employed hypodermic injection of diphtheria antitoxin in two cases of severe erysipelas of the face with favorable results. He explains this non-specific action of the antitoxic serum by its stimulating action on the phagocitic properties of the cells.

Treatment of Aneurisms with Gelatin.—It is pointed out by M. HALPERN (Zeitsch. klin. Med., vol. 46, Nos. 1-4) that in nearly all the cases of aortic aneurism which were reported as being successfully treated with subcutaneous injections of gelatin, dieting, rest and the iodides were also resorted to, and it is hard to say how much of the improvement is really due to the gelatin. Two cases were carefully investigated, in that they were allowed to move about, with the ordinary diet and no medication except gelatin. The size of the aneurism was carefully controlled in both by repeated X-raying. Absolutely no improvement followed. On the contrary the sacs were found to be larger on each subsequent radiograph, which tends to show that the supposed efficiency of gelatin is a popular delusion in medicine.

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THE PHYSICIAN'S INTEREST IN POLITICS.

It is an old saying, but not any truer for that reason, that for the physician to have any serious interests outside his profession is almost sure to be fatal to his success as a practitioner of medicine. Politics especially has been the subject of many warnings to young medical men on the part of their elders, until it has come to be considered quite the usual thing for the medical man to pay so little attention to elections and cognate affairs that he must even be cajoled into registering and voting except upon special occasions involving some great issue.

Surely this is just as it ought not to be. Very few educated men in the community are brought so closely in contact with the different classes of society as is the physician, and few are able to judge so well as he not only of the existence of abuses but also of the most feasible methods of reform.

At the present time the medical profession of the world is unselfishly engaged in the great problem of lessening physical evil and making human happiness more possible. There are many things connected with this commendable endeavor in which the best efforts of enlightened sanitarians may be rendered abortive by politicians and office-holders. Such an unfortunate play of cross-purposes is not infrequent, and it will continue until the more educated of our citizens take that interest, especially in local and municipal politics, that will insure office-holders of a better class. Physicians, far from withdrawing themselves from such civic duties, must rather set the needful example, since they should best appreciate the evils which exist.

The late Prof. Virchow furnished a precious model for his colleagues in this respect. Busy beyond the powers of all ordinary men with his investigations in pathology and anthropology, and with his teaching duties at the University of Berlin, he yet found the time to serve as a member of the city council of Berlin for over forty years. To him was committed the difficult task of arranging for a proper water-supply and an efficient method of disposing of the sewage of Berlin. His success in solving these problems was a source of his naive self-congratulation when on his eightieth birthday he looked back upon his career.

To Virchow more than to any other was due the absence of political jobbery in those immense municipal undertakings, whereof the magnitude and wherein the possibilities of plunder can best be appreciated through realization of the fact that in thirty years Berlin has increased in population from about 500,000 to considerably over 2,000,000 and that the city, standing on a level plain of wide extent, had to create huge sewage farms for the disposal of its refuse.

But Virchow did not even stop with an interest in municipal affairs. For nearly forty years he was a member of the lower house of the Prussian legislature. Here he was the leader of the Liberal party and Bismarck's unappeasable opponent. He became so prominent in this sphere that not a few Germans whom we have met—especially in this country—knew Virchow very well as a political leader though scarcely at all as a scientist. In the legislature he was once more the "watch-dog of the treasury," having been chairman of the finance committee. To him is attributed the present arrangement of the Prussian budget, said to be one of the best solutions of a great financial problem in Europe.

Virchow's example served to keep the medical profession of Germany interested personally in the political affairs of their country. He was a patriot, not a partisan. Much as he was opposed to Bismarck's policy which led up to the Franco-German war, no one rendered more efficient service once the war was actually begun.

Virchow does not stand alone among European medical men in his intelligent and influential interest in politics. Dr. Baccelli, in Italy, is an important member of the upper house, to whom many sanitary questions are referred by the Government. In France there have always been a number of prominent physicians and surgeons interested in political affairs and ready to bear their share of the burdens of securing good government for the people. The result is a greater attention to political matters by the whole medical profession of those countries, and less of the unfortunate feeling that such things are not for the practitioner.

Here in America the most serious danger ahead for our Government is the exclusive management of our affairs by the class called politicians, and the increasing dearth of interest on the part of the professional and business men of the country. Municipal affairs especially suffer from this lack of devotion to civic interests. Duty always implies sacrifice, and intelligent participation in politics will surely demand the expenditure of time. It will not, however, be wasted. As a matter of fact, an intelligent and consistent interest in politics on the part of physicians generally would insure readier acknowledgement of their professional claims to legislative attention, and would effectually prevent the display of prejudiced animosity that sometimes characterizes the attitude of legislators towards measures well calculated to further the interests of the general public as well as those of medical men in particular.

We understand that in New York city the introducer in the State Assembly of the objectionable bill proposing to extend the benefits of medical registration to the osteopaths was turned down for renomination by his political party mainly because of the feeling aroused by that action. In Colorado, earlier in the present year, a prominent candidate for United States Senator, a former Governor, found his chances ruined because of a gratuitous insult to the medical profession in the veto of a medical registration measure.

It would seem then that medical men are at length to have due weight, and that even at present those who have the best idea of popular feeling appreciate that medical opposition may mean much. There remains, however, a great deal to be done in this matter. There is entirely too little individual interest. Personal influence must be exerted, and physicians must keep themselves informed of conditions and in touch with the well-intentioned. If each man will do his little, however trivial it may seem, the total accomplishment will be beyond all anticipation.

POLITICS AND OUR PUBLIC CHARGES.

Sufficient time has elapsed to show the pernicious effects of the workings of the Brackett Bill upon the inmates of the hospitals for the insane in New York State. We grieve to say that our prophecy has come true. There is no joy in saying "I told you so" when the prognostication of evil has come to pass; but there is a duty to be performed in keeping before the mind of the medical as well as the lay public the fact that until the present law is modified the evil will roll up a debit of which the present items are but preliminary figures.

By this bill the Governor has destroyed a system which has been the growth of many years and has been the pride of the State and the model after which other States have founded their institutions. He has centralized all real power in a commission which is under his or other politicians' control, by making all stewards and practically all employees accountable, in fact, only to the centralized commission in Albany. The Governor and his commissioners therefore hold the power of dictating annually the purchase of millions of dollars' worth of supplies, of removing at will any one of over four thousand employees, and of transferring any superintendent, physician or assistant physician to other asylums. This check upon physicians was a direct outcome of the decided stand that the superintendents took concerning the proposed reduction and the new schedule of rations that was to go into effect January 1, 1902, and the total abolition of the board of managers was a quietus upon their vigorous protestations against the starvation food allowance of the Odell dietary and against other ill-advised economies.

Now Governor Odell is claiming from the platform that the Lunacy Bill has effected a great "saving" to the tax-payers of the State, and is counting his "economy" as a strong card in his hand.

Just how valuable has the Governor's economy proved? Needed repairs have been neglected, the patients have been crowded together; they have been reduced in clothing allowance, and above all the food as scheduled in the Odell dietary has been shown to be cruelly insufficient for the proper nourishment of the insane. It is the lowest allowance to which the State hospitals have ever been subjected.

The effects of the food reduction are only now becoming apparent. It is reported that scurvy has appeared among the patients, and the sick wards are fuller. There has been increasing restlessness and dissatisfaction among the patients, and a marked reduction in the number of patients able to work and the hours that it was possible for them to labor. Above all, there have been fewer recoveries in those cases in which the good food and medical treatment of the State institutions have been the means of restoration to health.

It is not the almshouse element that has made the New York State care of the insane so celebrated. The asylums are not filled with idiotic paupers who ought to be thankful to have a bed at night and a bowl of food when hungry. They are filled largely with patients who before their affliction were wage-earners, nearly all of whom have received education and once were independent. The object and glory of New York's care of her insane has been the restoration of many of these patients to their normal state. The effect of grief, fright, loss, financial worry, and the strain of trouble may often be overcome by proper treatment, which includes rest, seclusion, good food and sheltering care. Cut these off, and make the physicians helpless to remonstrate, and the New York State system, which has been so successful will be reduced to that of an old-fashioned madhouse.

It is towards this goal that Governor Odell's "economies" are directing our New York institutions for the insane.

THE NEW BELLEVUE.

We turn to a suggestive phase of the *positive* value that *non-political* interference may have in municipal affairs. By an act of legislature, sanctioned by Governor Odell, the Bellevue system was changed to one the counterpart in many ways of that which has been in force in our State institutions for the insane up to its recent overthrow.

Many of the beneficial results which have been the outcome of this wise move have been discussed from time to time in our columns, and the slow but sure reconstruction of Bellevue is becoming a hope realized.

In no department of the city's care of its unfortunate has the need of reconstruction been more acute than in the Insane Pavilion, and it is with a great sense of joy that we note the many changes for the better which have taken place in this portion of the hospital.

Although more things remain to be done in the way of sanitary improvement and in the adaptation of the present building to the needs of the insane, yet much has been done by increasing the accommodations and by changing the methods of treatment. The Insane Pavilion is no longer the horror of the city's poor and the gold-mine of the yellow journals. It has been transformed into a well-organized psychopathic hospital for the acute insane.

Under the old system of management a single physician without an assistant was in charge. He was not required to have had any training or experience in psychiatry, and his care was hardly more than that of a custodian. In his hours of absence any emergency occurring in the insane wards was attended to, to the best of their ability, by the internes of Bellevue proper, whose duties in no wise included this additional burden.

This arrangement did not appeal to the Board of Trustees as being especially enlightened, and a resident alienist with a resident assistant has been appointed. The selection of these incumbents has been made from among the well-qualified men of the State. Dr. F. Packer, who has been appointed to the chief position of responsibility, has had more than ten years' experience in State hospitals for the insane, and has come fresh from his work at the Matteawan State Hospital for Insane Criminals. His assistant, Dr. M. S. Gregory, had been Assistant Physician at Kings Park Hospital, Long Island.

Under these men a modern system of care and treatment has been introduced that has completely transformed the insane wards of Bellevue. The use of mechanical restraint has been abolished, except in cases where it is necessary to prevent acts of violence towards patients or nurses. The belt, cuff and waist-straps have been discarded. The wholesale use of sedatives as a means of restraint has been discontinued, and when necessary their doses are carefully prescribed. Many of the patients have been furnished with some form of employment, and their treatment has been recorded, with observations on their general health and mental condition, as in every well-organized hospital for the insane.

We do not quote from the report that mentions the inauguration of these new methods, but we speak from personal observation. There is a different atmosphere about the whole place. It is charged with work, hope, ideals, instead of discouraged ambitions and cynical contempt for the political powers that clogged the wheels of progress.

Now the Bellevue Insane Pavilion is a potential agency for good which may become a focal center of psychiatry in New York city. It may, now that an intelligent and distinguished body of men govern the city hospitals, grow into a large and thoroughly organized receiving-hospital for the insane, where students can avail themselves of its vast material, and where cases can be properly classified for future treatment. In short, it may become the ideal receiving-hospital for the mentally afflicted that it ought to be. But we have been so inspired with hope at what has been accomplished in a few months with Bellevue that we dream dreams.

ECHOES AND NEWS.

NEW YORK.

The New York Obstetrical Society.—The following officers were elected at the annual meeting of this society, Tuesday, Oct. 14, 1902: President, Egbert H. Grandin, M.D.; First Vice-President, J. Clifton Edgar, M.D.; Second Vice-President, G. W. Jarman, M.D.; Recording Secretary, W. S. Stone, M.D.; Assistant Recording Secretary, H. C. Taylor, M.D.; Corresponding Secretary, E. L. Tull, M.D.; Treasurer, J. Lee Merrill, M.D.; Pathologist, W. S. Stone, M.D.

To Study Epilepsy.—The National Association for the study of epilepsy and the care and treatment of epileptics will begin the meetings of its annual session at the Academy of Medicine in this city, 17 and 19 West 43d Street, at 2.30 P.M. Wednesday, November 5. The following program has been arranged: Presidential Address, Frederick Peterson, M.D.; Reports on the Progress in the Public Care of Epileptics, W. N. Bullard, M.D.; The Causes of Epilepsy in Early Life, with Notes on Treatment, Abram Jacobi, M.D.; The Pathology of Epilepsy, Adolph Meyer, M.D.; The Surgical Treatment of Epilepsy, Roswell Park, M.D.; The Legal and Social Standing of the Epileptic, Edgar J. Spratling, M.D.; Examinations in Epilepsy, with Records and Notes on Treatment, W. N. Moyer, M.D.; The Problem of Epilepsy: some suggestions to its solution, with demonstrations on the lesions, L. Pierce Clark, M.D., and Thos. P. Prout, M.D.; The Colony System for Epileptics, illustrated with lantern views of the Craig Colony at Sonyea, Wm. P. Spratling, M.D.; The Treatment of Epilepsy, Dr. Wildermuth (Stuttgart). Physicians and charity workers generally are invited to attend the meetings. The Association was founded for these objects: To promote the general welfare of sufferers from epilepsy; to stimulate the study of the causes and methods of cure of this disease; to advocate the care of epileptics in institutions where they may be educated, acquire trades and be treated by the best medical skill for their malady, and to assist the various States in making proper provisions for this class. The association has no membership dues. Applications to join it should be made to Dr. W. N. Bullard, chairman of the executive committee, 89 Marlboro Street, Boston, or to Dr. W. P. Spratling, the secretary, at Sonyea, N. Y.

The Crusade Against Sore Eyes.—In a recent issue of the MEDICAL NEWS we called attention to the great prevalence of contagious eye diseases in this city. There is little doubt that the Quarantine officials have not been as careful in scrutinizing the eyes of immigrants as they should have been, and the present fight that Commissioner Lederle is called upon to wage might have been in large part avoided. We quote from the New York Sun the following outline of the situation as it now presents itself:

"Dr. Lederle's request for an appropriation to enable the Health Department to employ more physicians for the purpose of stopping the spread of trachoma among the pupils of the public schools and from them to others of the population, marks the beginning of a real effort to check this disease in New York, after years of unsuccessful effort by public-spirited oculists to have the city authorities take the matter up. Sixteen years ago a leading oculist went to Albany, taking with him children blind from this disease as an exhibit before the Legislature. His effort to have something done by the Legislature and by the city authorities met with no success. In the meantime matters had progressed so far that last spring Dr. Lederle's examiners found, in only 36 schools, more than 6,000 pupils suffering from this contagious disease. Not one of the 36 schools was free from the disease. It was more prevalent in the schools of the lower East Side, but it had extended everywhere. The percentage of diseased pupils varied from 3.2 per cent. in one of the better class West Side schools to 22.2 per cent. in an East Side school. Boys were found with it more frequently than girls. In one school the percentage among the boys ran up to 28 per cent. Of the 6,670 pupils found with the disease in these 36 schools, 30 per cent. were affected in so severe a form that an almost immediate operation was necessary. On the first day of the new school year 573 pupils were turned away by the Health Department's examiners because of contagious eye disease, in almost every instance trachoma.

Dr. Lederle's secretary, Mr. Wadsworth, who has a class in one of the downtown settlements, learned incidentally during the summer that some of the better class of the residents of the sections of the city most afflicted by the disease had learned instinctively to guard against possible contagion from it. Mr. Wadsworth asked his boys one sultry evening if they had been swimming that day, and they all said no. He asked them why and they said that the clean people did not go to the floating baths because dirty people went to them. An investigation by the department showed that on one day 50 per cent. of the men using one of the floating baths suffered from trachoma. The ordinarily observant citizen who traverses the East Side downtown may see for himself the large number of sore eyes among the population. Many of the people regard the disease as merely an ordinary sore eye, and there lies one of the great difficulties encountered in efforts to stop the disease. The children may be cured of it and then become reinfected at their own homes. Since the beginning of the Health Department's present crusade Dr. Lederle has been in correspondence with the Surgeon-General's Office and with Immigration Commissioner Williams, the Federal Government having interested itself at once when the results of Dr. Lederle's examinations were made known. The Immigration Commissioner is now turning back many immigrants suffering from trachoma, and so vigorous has been this action that the steamship companies have been very much upset about it, as they have to transport the rejected persons at their own expense.

Manhattan Dermatological Society.—The regular meeting was held on Friday evening, October 3, 1902, at the residence of Dr. R. Abrahams, 43 St. Mark's Place, Dr. W. S. Gottheil presiding.

Dr. J. Sobel presented a case for diagnosis. Male patient, about forty years old, highly neurotic, shows involvement of left testicle, and epididymis; there is no history of trauma, lues, gonorrhea nor tuberculosis; patient, however, has a prostatitis and a vesicullitis; the swelling is firm and painless. Dr. Sobel is in doubt as to its exact nature. Patient also shows pigmentation (maculæ cerulæ) along the lower right axillary line, the result of pediculi pubis et corporis.

Dr. Oberndorfer thought the testicle little involved, it being hard and firm; the epididymis, mainly affected, he regards as either tuberculous or specific. Dr. Cocks thought it to be specific. Dr. Weiss also finds the epididymis chiefly involved and considers it tuberculous. Dr. Abrahams could only account for the prostatitis and vesicullitis as due to a previous gonorrheic process, and the testicular involvement as a late gonorrheal complication.

Dr. Gottheil sided with Dr. Sobel, believing the testicle largely affected, and regarded the condition as specific.

Dr. Sobel also presented his case of sclerema neonatorum recently shown, to show the result of treatment. Improvement quite marked; a single patch only observed over left deltoid region. Prognosis he considers extremely good. To massage he attributes the excellent result, rather than to any particular virtues which mercury may possess.

An infant with a deep ulcer occupying the coccygeal fold, following intertrigo, was also shown by Dr. Sobel; he called it intertriginous ulceration. Dr. Oberndorfer said it was unusual to see such deep ulceration following intertrigo. Dr. Weiss believed secondary infection had much to do with such large and deep loss of tissue. Drs. Abraham and Gottheil called it echthyema, to which Dr. Sobel replied that the ulceration of echthyema was a superficial process and so he took exception to that diagnosis.

Dr. L. Weiss presented three patients.

1. A woman of thirty-five years, shows marked yellow pigmentation of the face, present three years. The patient has an affection of the liver. Dr. Weiss terms the condition "chromosis symptomatica."

2. A case of pityriasis rosæ corporis; much modified, however, by recent treatment. The interesting feature was the assurance of Dr. Weiss that after repeated examinations of scales and sections no mycelia were found.

3. A case of lichen planus chromica in a male of fifty-five years, affecting scalp and neck. The patient doing well under Unna's ointment.

Dr. W. S. Gottheil presented a child of five years with deeply excoriated fissured lips; a squamous desquamating patch over both eyebrows; two oval (similar) patches on the buttocks and on the palms; adjacent mucous membrane of mouth and gums affected, and the anal region shows a large moist papule. He terms it "congenital frambesial syphilis," arriving at that diagnosis by exclusion. Dr. Kinch and Bleiman called it congenital syphilis. Dr. Weiss expressed some doubt as to its specific nature; the condition brought to his mind a rare affection termed "lichen hypertrophica labialis." Dr. Oberndorfer considered it an acquired lesion rather than congenital.

Dr. R. Abrahams showed the following four cases:

1. Case of atrophic cutis (previously presented). The lesion is progressive; in the newer areas involved marked hyperemia, as the initial physical sign shows to advantage.

2. Case of scleroderma diffusa; marked induration of skin of lower right arm following a trauma; the process rapidly extended and now involves the upper trunk (except anterior chest), buttocks and abdomen. Locomotion is becoming difficult. Dr. Abrahams believes the entire body will soon be completely involved. Treatment, thyroid and massage. He will report results. Dr. Geyser stated that he found the static spark an efficient remedy in these two cases; it surely would have some effect on the indurated skin and in case 1 would relieve pain of ulceration.

3. A male of sixty years, showing closely studded papillary elevations upon mucous membranes and cheeks; present 15 years, causing no symptoms. Those present agreed that the condition was one of plugged mucous ducts, producing minute mucous cysts.

4. A case of glandular involvement along the sternocleido and clavicular regions. Began four months ago; patient coughs, but lungs negative; placed upon K I and mixed treatment and is doing well. Considers it specific. Dr. Wainwright calls it tuberculous; he believes the cough was produced by pressure upon bronchi by enlarged bronchial glands and that its disappearance was due to the influence of K I on enlarged glands generally. Such a chain of enlarged glands was not the picture of syphilis. Dr. Sobel said leucemia suggested itself to him. If a tubercular process was present, he thinks such a prolonged administration of K I would surely bring it out. Dr. L. Weiss does not consider it lues; leucemia or tuberculous most likely. Dr. Gottheil concurred in this.

Dr. W. S. Gottheil showed a case of chronic urticaria, covering a period of years. Treatment of no avail. Lesions present on face. An acute outbreak usually disappeared within 24 hours, but some lesions were permanent.

Dr. Geyser showed two cases, one of epithelioma involving angle of eye and nose, treated successfully by the X-ray, and the other one of tinea sycosis treated by the static spray.

Death of Dr. A. M. Phelps.—At a meeting of the Faculty of the New York Post-Graduate Medical School and Hospital, held on Oct. 8, 1902, it was resolved that a committee be appointed to draft a minute in appreciation of the professional life and services of their late colleague, Professor A. M. Phelps. The Committee subsequently made the following report, which was ordered to be sent to the medical journals for publication and to be spread upon the minutes of the Faculty.

In the death of Professor A. M. Phelps our school has lost a teacher and the medical profession is deprived of a member whose energy cleared the way for great progress in his field of work during the past 20 years. His was the spirit of the pioneer. Not content with things that have been done, but ever restless to find new vistas with new horizons, his single-hearted devotion to the development of what is best in orthopedic surgery led him to engage in a constant warfare of ideas. No matter whether the ideas were those of colleagues or his own, no matter whether he was right or wrong, his energy gave life to the subject and set men to thinking. It is such active lives as his that keep subjects alive, that keep men aroused, and lead them to their utmost; and when this is for no selfish end, but solely bent in the interest of science, we have a public benefactor whose usefulness exceeds that of the capitalist who gives his million of dollars to the most worthy charity. The capitalist gains his fortune through his guidance of the work of others, and the scientist adds to the total of the world's knowledge by stimulating others to follow his lead of investigation, or to take long steps in progress at his suggestion. In the professions there is a tendency for men to fall asleep upon the soft pillows of consensus of opinion, but men like Dr. Phelps realize that consensus of opinion is often wrong because it represents the lines of least resistance, and he turned all sleepers out and made them uncomfortable until they had made their own new opinions. Dr. Phelps was impatient with those who were contented in their work, and as impatient with himself, for he realized that great fields for giving help to suffering fellow men lay still undiscovered.

According to human experience greatness implies the possession of constructive motives, nobility of purpose, catholicity of view, erudition. Dr. Phelps's motives were always constructive, his ideals were of the noble sort that included no interest before the interest of the sufferer. His views were so comprehensive that he could not long remain a partisan in any field aside from that of definite knowledge. His learning was that of the man of alert conception and of trained memory. Dr. Phelps then was a great man, and his opponents are the ones who would say it, sooner than he himself would have acknowledged it.

It was not in our school alone, nor in the city, nor in the State, nor in America that his talents were recognized, but wherever in the world men are engaged in studying the things that he studied, he gave direction to their methods and force to their efforts. An influence like that of Dr. Phelps is that of the wireless telegraph, sending through invisible ether an impulse that is felt and that meets sympathetic response in minds that vibrate in unison at all distances, an expenditure of energy that finds its kinetic in the development of new knowledge. Yet he was not the one to say that he was right, only that he wanted to be right and that he wanted others to be right.

He was proud in his strength, yet modest in the presence of those who were stronger than he. Few knew this side of his character, but those of us who knew him best knew how much of humility there was beneath his forceful bearing.

And if we speak of Dr. Phelps as the surgeon, what shall we say of him as the citizen, as the friend, as the husband and father? Matters of public interest were matters with which he made himself conversant, and whether at home or abroad he formulated views of public affairs with a clearness of view that engaged the attention of statesmen. As a friend he was loyal almost to the point of weakness. His enjoyment of life and of his friends was that of a man whose spirit of camaraderie overlooked all failings. Beneath the stern exterior developed by men of his strength to resist external impressions, there was a heart so kind and sympathetic that a tale of woe or a pathetic sight moved him as it would have moved a woman, and his kindly deeds in response to the impulse of a great and generous nature were unknown to the world at large because he considered it beneath the dignity of a man to show any side excepting the one that accomplishes things by force.

Dr. Phelps has been taken from the home, from the profession, and from the world before his activities had reached their zenith, but the influence of such a life as his will last beyond the lives of those who felt his influence, and we, his colleagues, sorrowing in his loss, exult in the privilege that we had in knowing him.

Robert T. Morris,
Reynold Webb Wilcox,
Henry Ling Taylor,
Committee.

PHILADELPHIA.

Increase of Smallpox in Pennsylvania.—The State Board of Health reports 533 cases of smallpox during September, with 35 deaths. This equals the number of cases for both July and August. The State Board is crippled in fighting the disease by lack of funds.

Jefferson Medical College.—Dr. A. Hewson has been elected Assistant Professor of Anatomy. This is a promotion from the position of Demonstrator of Anatomy which Dr. Hewson has held for many years.

Editorship of the International Clinics.—Dr. A. O. J. Kelly has just been made the editor of the International Clinics.

An Old Coroner's Verdict.—One of the curios of the coroner's office in Philadelphia is the verdict of a coroner's jury in 1806. The document is written on a leaf torn from a note-book and reads: "This is to certify that it has been the opinion of the Jury summoned on the death of Patrick John McFall that he came by his death by Stranguling himself, he being in a State of Insanity. Phila., 9th August, 1806. John Dennis, Coroner."

Pathological Society.—The following officers for the ensuing year have been elected, practically all being reelections: President, Dr. C. W. Burr; Vice-Presidents, Dr. Alfred Stengel, Dr. Simon Flexner, Dr. Joseph McFarland, Dr. M. P. Ravenel; Secretary, Dr. J. D. Steele; Treasurer, Dr. T. S. Westcott; Recorder, Dr. David Riesman; Curator, Dr. Wayne W. Babcock.

Bureau of Health Asks for Increased Appropriation.—The Bureau of Health has asked for an appropriation of $284,780 for maintenance during the coming year. This is $75,300 more than the appropriation for the present year. The largest item is $60,000 for the abatement of nuisances and for general expenses. It is said that $25,000 is needed at once for the former purpose and nothing is available. Last year $45,000 was spent for vaccination.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14, 1903, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the College on or before May 1, 1903. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1902 was not awarded, the committee having decided that no essay of sufficiently high standard was submitted in competition. Thomas R. Neilson, M.D., Secretary.

Sanatorium Treatment of Consumptives Opposed.—The Record in a conservative editorial answers the arguments of certain persons who condemn the establishment of sanatoriums in Pennsylvania for the treatment of consumptives by open air, mental and physical rest and high feeding, as "a deplorable error" and as being "wasteful of money and wasteful of human life." These opponents of sanatoriums assert that the climate which is best for one consumptive is not best for another; that the establishments should be at certain places (such as Monte Carlo, the Canaries, Algiers, Mexico, California, etc.), all of which happen to be remote from the populous cities, and that certain eminent medical men should give their time exclusively to the selection of a resort for each patient. The Record says:

"It is a question of means. It is true that a particular poor consumptive of Philadelphia might do vastly better at Cape Colony, another at Samoa, another in the south of France, and so on; but as there is no fund to send each to the best place for him, it is certain that all the poor consumptives of Philadelphia would be very much better off at hospitals situated in the most healthful of near sites than they could be at their homes in the city. It is a fact of experience that a percentage of consumptives at the hospital are cured and that all are greatly improved in health. Therefore, as long as there is not money enough for anything better, it is absurd to condemn the system as erroneous and wasteful."

Association of Hospital Superintendents.—The fourth annual convention of the International Association of Hospital Superintendents was held in Philadelphia during the past week. Among the subjects receiving the greatest attention were the representation of physicians in the governing boards of hospitals and the political abuse of hospitals by interference in their management. Papers on the latter subject were read by Dr. Walter Lathrop of Hazleton and John Fehrenbatch of the Cincinnati Hospital. The former said that in Pennsylvania all appropriations for institutions must be recommended and approved by the Board of Public Charities, and while some may be favored more than others by means of political pull, and in fact are thus favored, the tendency of the board is to deal justly with all. Some hospitals ask for more than is necessary and expect to be cut down. Others ask for what is absolutely needed, and when this is reduced, the honest institution suffers. "The last legislature allowed only a portion of the sum which the State Board of Charities declared to be the minimum requirement for the insane hospitals, while it granted millions to private institutions. The Governor, however, still not satisfied, reduced the appropriations to State hospitals by several hundred thousand dollars, while approving the subsidies substantially as voted. That a State like Pennsylvania should postpone for years the most urgent demands for the feeble-minded and insane seems to be in part explained as a result of the large use of subsidies." "There is no doubt that politics plays a strong part in the securing of funds and in the administration of many of our institutions, State hospitals, as well as municipal institutions having a board of managers or trustees who are responsible to the public through the several powers that make appointments. In some instances these change with each political change and favors are distributed where they are thought to count most in political strife, or the control of votes for future use."

Dr. Fehrenbatch said that experience had demonstrated that wherever politics had entered the portals of a hospital it had not been for the benefit or welfare of that institution nor for the benefit of the political party that had attempted to exercise control. Where the State has the privilege of furnishing a limited number of patients free of charge in return for appropriations this privilege is often grossly abused by the members of the legislature that makes the appropriation. This is not only unfair to the taxpayers of the State, an injury to the medical profession, and an injustice to the hospital, but it tends to paralyze the very people that the members of the legislature select as the recipients of the State's bounty.

Dr. Rowe, of the Boston City Hospital, said that politics had no part in the administration of the Massachusetts hospitals, where it dictated no appointment from the superintendent to the lowest scrubber. This subject of politics and State charges is treated elsewhere in this issue.

CHICAGO.

Graduating Exercises of the Provident Hospital Training-School for Nurses.—These exercises were recently held. Twenty-two nurses were admitted to the training-school this year, eight of whom received certificates of graduation.

Demonstration of Dr. Ochsner.—Dr. Edward H. Ochsner, during the course of the clinic, demonstrated a case of bilateral congenital hip-dislocation reduced by the Lorenz method some years ago, the patient having died in the meantime of some intercurrent affection. The pelvis was shown, demonstrating the almost perfect anatomical result which it is possible to obtain without opening the hip-joint.

Banquet to Lorenz.—A banquet was tendered to Dr. Adolph Lorenz, of Vienna, by the Chicago Orthopedic Society and the Chicago Surgical Society, Oct. 16. Dr. J. B. Murphy acted as toast-master. Dr. A. B. Hosmer responded to "Our Honored Guest." Dr. M. L. Harris, as President of the Illinois State Medical Society, and Dr. Wm. A. Evans, as President of the Chicago Medical Society, heartily welcomed him to Chicago with appropriate speeches. Dr. Frank Billings responded to the "American Medical Association," while Dr. John E. Owens spoke for the Chicago Surgical Society.

Congenital Dislocations at the Hip.—Professor Adolph Lorenz, by invitation, conducted a clinic at the College of Physicians and Surgeons, Oct. 13. He performed seven operations for congenital dislocation of the hip, or three more than he had ever treated in one day. The clinical amphitheater was crowded with general practitioners and students. In these operations Professor Lorenz and Dr. Mueller were actively assisted by Dr. Dexter Ashley, of New York, by Dr. John L. Porter, and by Dr. T. A. Davis, of the staff of the College of Physicians and Surgeons. Most of the members of the faculty of the College witnessed the operation. Professor William E. Quine introduced Professor Lorenz.

Ages of the Patients.—Three of the patients operated upon were seven years of age, one four years, one nine years, and the last and most difficult case was eleven. The manipulations necessary in this case were extreme, and Dr. Lorenz stated and though normally the elasticity of the great blood-vessels near the hip-joint saved them from injury, in some cases, such as the last one, they were in great danger and if broken would require exarticulation of the hip-joint. The pain and discomfort after the operation, he said, were minimum, as the tension, which was the principal factor in all such cases, had been done away with by his extreme manipulations. The series of operations was the most striking ever seen in Chicago. The actual manipulation necessary for reduction averaged about four minutes, and in several instances the click of the bone going into place could be plainly heard.

Bulletin of the Health Department, Week Ending Oct. 18.—The gratifying decrease of typhoid, heretofore noted, remains about the same as to mortality, but a marked change has developed in the location of the deaths since the first of the month. Three weeks ago the great majority of deaths has occurred in the slum districts on the West Side, east of Halsted street; but since then the deaths in that region have greatly diminished in number, while a far greater proportion now occur in the best residence districts of the city, especially on the South Side, in which the sanitary conditions and the water supply are the best. This development was foreshadowed in the bulletin for the week ending Sept. 27, in which it was said that, "aside from a probable increase, due to the return of summer vacationists, who may have contracted the disease elsewhere to develop it at home, the department believes that the highest figures of typhoid mortality have been reached, and that the disease may no longer be regarded as epidemic. An improvement in the sanitary quality of the water supply, which was observed a week ago, has been much more marked during the last week, especially in the samples from Lake View, the four-mile and the Carter H. Harrison tunnels. This improvement is reflected in the diminishing number of deaths from the acute intestinal diseases, which have been fifty, forty-four and twenty-seven, respectively, for the three weeks of the month. Notwithstanding the good pasturage an increased proportion of samples of milk below grade have been found by the milk inspectors; but this is largely due to the fact that their labors have been directed to the poorer districts. The department has resumed the publication of the names and addresses of dealers who sell "skimmed milk" as "whole milk," and it rests with consumers to punish these by refusing to further patronize them. The dirty milkman is even more dangerous than the dishonest one, and the war against dealers whose facilities and depots indicate that they cannot handle milk properly will be waged with more severity than heretofore. During the week several samples of milk have been found adulterated with formalin—for which there is even less excuse than in hot weather; suits have been begun against these offenders and will be pushed rigorously. The 445 deaths reported during the week represent an annual mortality of 12.73 per thousand of population, or an increase of more than 10 per cent. over the rate of the previous week, when there were 42 fewer deaths reported. The principal causes of the increase and the numbers in excess were: Pneumonia, 22; nervous diseases, 13; apoplexy and heart disease, 12; diphtheria and violence, eight each. Aside from diphtheria, the causes are those with which sanitary administration can do little, but a word of caution as to unnecessary exposure, proper clothing and prompt attention to common colds may "help some" in averting pneumonia.

Description of the Lorenz Operation.—This bloodless method of reduction in the treatment of congenital dislocations at the hip may be described, briefly, as follows: The thigh is strongly abducted and the adductor muscles are torn from their attachment by chopping or sawing with the edge of the hand. This must be complete, as this group of muscles prevents the superabduction so necessary to keep the limb in place after it has once been reduced. After the muscles are torn through, the limb is stretched to pull the head down to the level of the acetabulum. When this is reached, the thigh is flexed and extended vertically upwards, at the same time making pressure behind upon the trochanter so as to force the head forward. Then, still keeping the hand or wedge beneath the trochanter, to act as a fulcrum, the leg is abducted and the head slips over the posterior rim of the acetabulum with a distinct snap. The head is now in the acetabulum, but has no tendency to stay there, and becomes redislocated as soon as one attempts to straighten the limb. To overcome this, the hip is reduced and redislocated several times, the joint is rotated and pressed in so as to bore out the acetabulum. In cases of greater difficulty, Lorenz attempts the reduction over the upper rim, which consists of making traction upon the thigh by means of a skein of yarn slung about the leg and pulled rhythmically by several assistants. The use of the screw for this purpose has been given up on account of the danger of fracture. The leg must be rotated inward to guide it to the acetabulum, while countertraction is made by means of a perineal band. The physical signs accompanying a successful reduction are easily demonstrated and cannot be missed. The leg becomes as long as its normal companion; the hollow Scarpa's triangle becomes filled up, and the head can be palpated beneath the femoral muscles. The knee becomes flexed from shortning of the hamstring muscles. The snap, which is felt and heard at each reduction of the joint, can often be made out by observers several feet away. Upon redislocation all the above signs disappear. The second step in the operation is to turn to use what has been gained in reducing the head. As already mentioned, the head slips into the acetabulum only after extreme abduction combined with flexion and internal rotation has been attained. Any lessening of this extreme position allows the thigh to become redislocated. Therefore Lorenz fixes the limb by means of a plaster cast in this extreme position, and after the first few days of pain and restlessness pass away the flexed limb is fitted with a high shoe so as to enable the child to bear its weight upon it. In this manner the child is encouraged or rather forced to run about all day on this limb, so as to allow of the functional burdening of the head and acetabulum. This pressure soon digs out a new joint, which is easily demonstratable by means of the X-ray. Crutches are never to be used, for they defeat this purpose. After six months the cast is removed, the leg brought nearer to the horizontal and a new cast applied. Finally, after eight to twelve months, the cast is taken off altogether, and a high shoe is placed on the sound leg to preserve a small amount of abduction; this, with massage, electricity and gymnastics.

CANADA.

A Medal for a Doctor.—At the time of the fire at the Consumption Sanatarium at Ste. Agathe, near Montreal, Dr. John Ferguson of Montreal displayed conspicuous bravery in rescuing many of the patients. For this the Governors of the Royal Humane Society of Montreal will award the young doctor a medal.

Attendance at McGill University.—There are nearly 1,000 students attending the different faculties of McGill University, distributed as follows: Law, 39, a decrease of eight from the figures of last year; Arts, 298, of whom 180 are undergraduates; Applied Science, 280; Comparative Medicine, 16. In the Facultay of Medicine the attendance is in the neighborhood of 400. There are said to be 2,000 medical students attending the different medical colleges in Canada.

Personals.—Dr. W. M. Ford of McGill University, Rockefeller Fellow of Pathology, has been appointed to the staff of the Rockefeller Institute at Chicago. For the past year he has been prosecuting research work in Paris, France.

Dr. H. W. Thomas of Montreal has been appointed Fellow in Pathology at the Medical Department of McGill University. For the past three years he has been taking up a special course in comparative pathology in Germany.

Dr. Charles O'Reilly Honored.—Dr. Charles O'Reilly, Medical Superintendent of the Toronto General Hospital, has returned from attending the annual meeting of the medical superintendents of the hospitals of the United States and Canada. He was elected Vice-President, and owing to the absence of Dr. Duryea, the President, was called upon to preside at the meeting. It is expected that the association will meet in the near future in Toronto, when, no doubt, Dr. O'Reilly will be elected President.

Vaccination in Montreal.—The new Vaccination Law recently adopted by the City Council of Montreal requires that vaccination shall not be performed by any person other than a duly qualified medical practitioner. It further stipulates in order to avoid any accidents following upon the operation that it be done aseptically. Any person or medical practitioner violating any of the provisions of the by-law shall for each offense be liable to a fine not exceeding $40, and in default of payment thereof to imprisonment for a period not exceeding two calendar months.

Toronto Free Consumption Hospital.—Dr. E. J. Barrick is circulating a petition in Toronto which will ask the City Council to submit to the electorate at the coming municipal elections the question of granting aid to the proposed Free Hospital for Consumptives. In connection with this project a gentleman of Toronto has recently offered to donate $25,000 towards the purpose of erection of the buildings. The National Sanitarium Association are appealing for funds to carry on the work of treating poor consumptives in their new hospital at Gravenhurst. In both hospitals in Muskoka there are now 150 patients.

Toronto General Hospital Graduates.—The graduating exercises of the Training School for Nurses in connection with the Toronto General Hospital were held last week, when eight nurses received their diplomas. The lady superintendent reported that since the Training-School was started in 1881, 355 graduates had left the school, 60 of whom now held positions of responsibility in other hospitals both in the United States and Canada. During the past year there were 658 applications. Dr. George A. Peters delivered the graduating address, while Dr. Charles O'Reilly, the Medical Superintendent, presented the diplomas.

Providing for the Nurse's Fees.—A recent decision has been given in Toronto by Judge Morson with regard to trained nurses collecting their fees. A Toronto gentleman engaged a professional nurse for the expected confinement of his wife, and told the nurse to hold herself in readiness on and after a certain date. One week after the expected time she was summoned to attend her patient. As payment for the week of waiting was refused the nurse entered suit. The question for decision was: Should a nurse when engaged for a fixed date be paid for the time of waiting after that date as well as for the time of service? The Judge said "Yes." The decision has given satisfaction to both physicians and nurses in Toronto.

Toronto Clinical Society.—The first meeting for the season of 1902-3 was held on the evening of Oct. 8, with the President, Dr. Edmund E. King, in the chair. Dr. King delivered the annual Presidential Address, taking for his subject the surgical treatment of prostatic affections. Dr. G. Silverthorn presented a young girl of eleven years, upon whim he had performed excision of the right shoulder-joint for myeloid sarcoma. Excellent results followed, the patient when shown to the Fellows having very fair command of the extremity. Dr. D. J. Gibb Wishart reported a successful case of nose building with paraffin. Dr. H. B. Anderson showed two pathological specimens. One was a traumatic rupture of the ileum sustained by a man in a scuffle. The rupture was situated about twelve inches from the ileocecal valve. Death resulted. The second one was a case of gonorrheal endocarditis. Dr. H. A. Bruce showed double pus-tubes removed that day. He always leaves one ovary behind. Dr. F. Lem Grasett showed the sac of a femoral hernia.

Religious Mania Amongst the Doukhobors.—There are four settlements of Doukhobors in the Canadian Northwest having a population of nearly 7,500, amongst 1,500 of whom a religious mania has recently broken out. Some interesting details of this outbreak have appeared in one of the Canadian dailies, statements which in large part have been secured from Dr. Cash of Yorkton, Assa., who practices amongst these peculiar people. So great has the antipathy of the fanatics turned upon animals, their flesh and their products, that recently they turned all of their cattle adrift. The Dominion Immigration Department rounded these up and sold them at public auction, when some evidences from a few of the Doukhobors showed that they might be willing to return to their natural state if they could only get their cattle back. The Government now holds some $14,900 awaiting the disposal of the owners. So intensely had the mania seized upon the people that the women took the places of the horses and oxen at the plow and in the fields; and Dr. Cash relates how bonfires have been made of harness, boots, garments, etc. A crusade is to be shortly organized to consist of some 50 of these fanatics, who purpose converting to their views, the other Doukhobors, as well as the people of Canada and the United States.

GENERAL.

Changes in the Medical Corps of the Navy, Week of Oct. 18.—P. A. Surgeon T. D. Myers, retired, ordered to the Naval Hospital, Philadelphia, Pa.; Dr. J. L. Neilson, appointed Assistant Surgeon with the rank of Lieutenant; Asst. Surgeon H. A. Dunn, detached from Naval Hospital Yokohama, Japan, and ordered to Naval Station, Cavite, P. I.; P. A. Surgeon W. H. Bucher, detached from Panther and granted leave for one month; Dr. R. H. Michels, appointed assistant surgeon from October 11, 1902.

Plague at Odessa.—The Corporation of Odessa, says The Times's correspondent in that city, has agreed to assign 500,000 rubles ($257,500) for increased hospital accommodation, etc., in connection with the plague, which is now officially recognized as epidemic. The authorities have agreed to keep the public informed in regard to the progress of the disease and the measures taken in the interests of public safety. The correspondent says the policy of secrecy pursued up to now has encouraged alarmist reports.

What is Wrong with Our Education?—No better summary of the dangers to society from illy educated, half-baked fanatics can be found than a recent editorial note in the Evening Post of this city, which we here give in full, showing that the public is slowly coming to regard certain matters in a more sensible light: "Diphtheria, Christian Science neglect" is the form of certificate of death issued by the Coroner at White Plains yesterday. The case was that of a child who died of malignant diphtheria without medical attendance other than that of prayer on the part of the "second reader" of a Christian Science Church, who said, when interviewed: "We heal through the power of God over the body through the mind, and I prayed for the little one's recovery." The mother of the child confirmed this statement, saying: "We don't have illness, but have claims and errors, and if we properly pray, and trust in God, we will recover." This is so much like the belief prevailing among the tribes in West Africa that we must think that we obtained it from them, or they from us. A work just issued by the American Economic Association, entitled "The Negro in Africa and America," by Joseph Alexander Tillinghast, M.A., gives some facts tending to this conclusion:

"From the humbler medicine men found in every village, up to the completely organized and powerful priesthood of Dahomey, the functions of all are essentially alike, *i. e.*, to cure diseases by driving out the evil spirit."

Du Chaillu, in his "Equatorial Africa," bears testimony thus:

"The Camma theory of disease is that Okamboo (the devil) has got into the sick man. Now this devil is only to be driven out with noise, and accordingly they surround the sick man and beat drums and kettles close to his head; fire off guns close to his ears; sing, shout, and dance all they can. This lasts till the poor fellow dies or is better."

The theory is the same as that of the Christian science healers that the disease is a spiritual, not a physical malady. But how can an infant have a spiritual malady? How can a "claim" or an error be removed from the mind of a babe? It is to be hoped that the public authorities will make a test case of this White Plains homicide, and let us see whether society has any means for the protection of life superior to those prevailing in Dahomey.

Obituary.—Dr. Palmer Leete, eighty-two years old, died Monday last at the family homestead, in Branford, Conn. Leete's Island was named after him. Dr. Leete was one of the leading physicians in Southern Connecticut in his prime. Death was due to old age.

Dr. James D. Wade of Williamsburg died Sunday night while attending a patient. Dr. Wade was born in New York in 1838. When the War of the Rebellion broke out he joined the Forty-seventh Regiment. At the expiration of his three months' enlistment he joined the 176th New York Volunteers. He was afterward assigned to the Nineteenth Army Corps of the Department of the Gulf and participated in several battles in Louisiana. He was made a captain in the Eighty-seventh United States Infantry, a colored regiment. He was captured by Confederates and put in prison, from where he and some of his companions escaped. They walked 160 miles through marshy land at night before they reached New Orleans. In 1864 Dr. Wade received his discharge.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced: Dr. F. Rubio, a well-known Spanish surgeon, at the age of seventy-five years.—Dr. Broes van Doert, an eminent Amsterdam dermatologist.—Dr. Albert Graefe, a well-known Berlin ophthalmologist, who was related to Albrecht von Graefe as well as to the late Alfred Graefe of Halle. He died in the Tyrol from pleuro-pneumonia, his age being only forty-two years.—Dr. Brunelle, Professor of Surgery in the Laval University, Montreal.—Dr. Alcina y Rancé, Professor of Therapeutics in the Cadiz Medical School.—Dr. Leo Kaplan, of the Herzberge Lunatic Asylum, whose numerous papers on the histology of nervous diseases are well known.—Dr. Josef Bergson of Berlin, at the age of eighty-nine years. He was one of the earlier writers on general anesthesia.—Dr. Karl Ewald Hasse of Hanover, at the age of ninety-two years, formerly Professor of Medicine in Göttingen. His published works include an autobiography written quite recently.—Dr. Friedenwald, Professor of Ophthalmology, etc., in the College of Physicians and Surgeons, Baltimore.—Dr. Josef Unterlugauer, formerly Director of the Sanitary and Medical Services of Bosnia and the Herzegovina.—Dr. van Hasselt, formerly Inspector-General of the Medical Department of the Dutch army.—Dr. Switalski, privat docent of Midwifery in Warsaw.—*The Lancet.*

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-Eighth Annual Meeting, Held at Kansas City, Mo., Oct. 15, 16 and 17, 1902.

Syphilis and the Body Politic.—Dr. S. P. Collings of Hot Springs, Ark., gave his Presidential Address. His reasons for selecting this subject were, first, because of the importance of calling attention constantly to a disease so wide-spread as syphilis; secondly, because it was a disease which, with proper education concerning its frequent occurrence, together with its various modes of transmission, could be controlled more effectually than most diseases, and thirdly, because for the past 25 years he had been a daily observer of its frightful ravages upon the body politic and society at large. The history of syphilis was so closely interwoven with the history of the world that it was difficult to dissociate the one from the other. From the earliest records kept by the Chinese and Hindus down to those of the Greeks and Romans, a disease characterized by a primary sore, followed by constitutional symptoms, had existed. Anthropology had demonstrated that an affection was present among men in prehistoric times which produced lesions corresponding with those found to-day in tertiary syphilis, and in the inherited forms of this disease. Records showed that 4,526 years ago the Chinese knew of the duality of the chancre. They also knew that mercury was the antagonistic medicine. Syphilis existed among the Jews centuries before the birth of Christ, assuming such proportions at one time that Moses had 24,000 men who had contracted it summarily put to death. With the outbreak of the epidemic of the fifteenth century the disease seemed to have assumed a malignant form, the general characteristics of the affection becoming apparently more pronounced and malignant. The prevention of the spread of syphilis, in the author's opinion, by educating the public more thoroughly as it is being educated concerning the communicability and modes of transmission of tuberculosis, should be more vigorously advocated. The public, however, must first be willing to learn before it can be taught. Syphilis was communicated not only by some infected person, but also by articles which have come in contact with the specific poison, and kissing was a prolific source. Bulkley had shown that it could be conveyed by knives, forks, cups, pipes, cigars, chewing-gum and candy passed from one person to another. A new-born babe with inherited syphilis was extremely infectious to those about it. The history of this disease was intimately associated with the subject of prostitution.

At the present day the prohibition of prostitution was not practical. Regulation of the vice had proved ineffectual in controlling its spread. If it was legalized the men frequenting the houses should be subjected to the same rules in regard to examination that the unfortunate inmates were subjected to. In New York City there were in 1901 about 200,000 cases of syphilis, and Gihon a few years ago estimated that there were 2,000,000 cases in the United States. Syphilis was prolific of harm to humanity; its dire results were far-reaching; it was no respecter of persons, being as vicious in the palace as in the hovel, and physicians could do more by educating their patients as to the modes of infection, and by advising with the younger ones among those whom they treat, than all the laws that had been or ever will be enacted could do to prevent the spread of syphilis.

PROCEEDINGS OF THE MEDICAL SECTION.

Smallpox.—Dr. John M. Batten of Downingstown, Pa., read a paper on this subject, in which he detailed the symptoms, and then discussed the diagnosis and prognosis, and emphasized the necessity of vaccination.

An Attempt to Obtain Uniformly Active, Sterile, and Non-irritating Preparations of Digitalis for Subcutaneous and Internal Administration.—Dr. E. M. Houghton of Detroit, Mich., referred to the unsatisfactory condition of our knowledge of the chemistry of digitalis, and stated that a sterile, non-irritating, and uniformly active preparation was greatly needed. He detailed his efforts to obtain such a preparation containing the largest possible amount of active constituents and the smallest amount of the inert constituents of the drug, based on pharmacological experiments on the lower animals. He gave the clinical results and conclusions arrived at.

Some Developments in the Therapy of Iodoform.—Dr. J. J. Gaines of Excelsior Springs, Mo., regarded iodoform as the best remedy for tuberculosis at the command of the physician. He spoke of it as an ideal iodide, storing all quantities of iodine, which could be easily liberated. He mentioned its use in pulmonary and gastro-intestinal diseases, and reported a number of cases in which he had used it with gratifying results.

Normal Sleep Versus Drug Unconsciousness.—Dr. J. B. Learned of Northampton, Mass., said that natural sleep was indispensable to long life and business success. Drug unconsciousness, labeled sleep, was the reverse. The indoor brain-worker failed to lay the foundation of normal sleep by day, and suffered from that failure by night. Brain and muscle employed in the open alone during the day would secure the normal conditions of sleep at night. Automatic brain-activity at the sleeping hour was the immediate cause of wakefulness. The ready remedy was muscular exertion under the direction of the will, either mild, without change of parts, or the reverse. Control of the respiratory and circulatory functions met the desired end by withdrawing power from the brain-centers. All automatic brain-work was suspended when concentrated attention was paid to alternate contraction and relaxation of certain groups of muscles. Automatic brain-work was pathological. Brain and muscle work, under the direction of the will, was physiological. The author detailed a method of inducing sleep.

Treatment of Exophthalmic Goiter by Electricity.—Dr. H. M. Beaver of Spring Hill, Kan., said that predisposition might act as a predisposing cause. The exciting cause might be a previous illness, injury, or overexertion. The exciting cause involved a determination of blood to the brain and medulla oblongata. This determination of blood acted as an irritant by pressing upon the nerve-centers, causing the incoordinate nerve action found in this disease. The symptoms referable to the heart, lungs, stomach, thyroid gland and eyes were nervous phenomena. The cardinal principle of treatment was to decrease the flow of blood to the head. When this was accomplished, all the minor symptoms would subside. The author reported three cases of the disease, and described the mode of application of electricity, also the battery used. He regarded exophthalmic goiter as a vasomotor paralysis; hence it was amenable to electrical treatment.

Typhoid Fever: Its Antiseptic Treatment.—Dr. James Billingslea of Baltimore, Md., reported 150 cases. He summarized the chief points in the disease. He said various antiseptics had been tried and vaunted. These were mentioned. Eliminative measures had been freely tried, and one of the most potent agents that the profession had to-day, Brand's method of cold bathing, owed its merits largely to its eliminative value. But even the undoubted value of Brand's method did not militate against the importance of an antiseptic plan, if an effective one was forthcoming. Such an antiseptic seemed to exist in the case of benzoyl-acetyl-peroxide, which came to the profession with the endorsement of Professors Freer and Novy, of Ann Arbor, Mich. Wasdin had recorded 24 cases treated with this new peroxide, with a speedy subsidence of fever, a small proportion of complications, and a material lessening of the duration of the disease. While the author had always been an advocate of conservative treatment, and had made it his aim to make haste slowly, seeing, as he did, a large number of typhoid cases, he gave this antiseptic a fair trial. During the past year he had treated in private and hospital practice 150 cases of typhoid fever with the proprietary preparation of this drug, acetozone, and the results had surpassed his expectations, not a single death having occurred. The special treatment consisted in dissolving 15 to 20 grains of acetozone powder—equal to 7½ or 10 grains of the benzoyl-acetyl-peroxide—in a quart of water, and giving the patient this amount to drink in the 24 hours, both in water and in milk, diluting the milk to one part of acetozone solution to three parts of milk. The action of the drug would be materially aided by administering a mild saline laxative, say sodium phosphate or magnesium sulphate, every other day.

Dr. H. J. Stewart, of Chicago, Ill., had treated 16 cases of typhoid during the recent epidemic in Chicago, and of this number there were two patients who could not take acetozone, but whether it was due to an idiosyncrasy on part of the patient he did not know.

Dr. Wm. Britt Burns of Memphis, Tenn., cited the case of a girl, aged 10, which illustrated the air-borne mode of infection.

Dr. William A. Campbell of Colorado Springs, Colo., contended that when patients became very hungry for food the physician should try and find out what articles of food would best agree with them. This was the plan he pursued in treating typhoid cases. He did not regard milk as a dangerous food in typhoid fever cases.

SYMPOSIUM ON TUBERCULOSIS.

What Class of Pulmonary Cases Do Well in Colorado?—Dr. W. A. Campbell of Colorado Springs, after speaking of the prevalence of tuberculosis and the frequency of unrecognized and cured cases as shown by autopsies, gave an analysis of 250 cases coming under his observation, in which his examinations were made soon after their arrival in Colorado. He found in this series of cases that the average age was twenty-nine and four-fifths years. Sex or social station made no difference in physical condition or result. Twenty-nine states and five foreign countries furnished the cases. Those with tubercular family history did not do as well as the non-tubercular. The percentage of benefited decreased as the duration of the disease increased. The right lung was involved alone oftener than the left. The percentage of benefited was slightly in favor of the right lung. Where both lungs were involved the mortality was 50 per cent. In the first stage cases 92 per cent. were benefited; in the second stage, 54 per cent.; in the third stage, 13 per cent. Hemorrhage occurring in the first stage of the disease was no contra-indication to residence in high altitude. The diminished arterial tension and dilatation of external capillaries due to lessened atmospheric pressure made it safe for hemorrhagic cases to seek a higher altitude. He would not send cases of acute miliary tuberculosis or phthisis florida to high altitudes. Neither would he send those extremely nervous, with an irregular or rapid heart and high temperature. Cases well advanced, with rapidly breaking-down lung, should not come. Those having cardiac dilatation or acute endo- or myocarditis should not come. Cardiac murmurs were no contra-indication if compensation had taken place. Those having Bright's disease should not come. Advanced laryngeal or intestinal cases did not do well. He would have patients come with sufficient money to support themselves on good food until acclimated and improvement was well advanced. In conclusion, he cited the high percentage of benefited in the first stage, and made an appeal for the early detection and early protection of the tubercular subject.

Climatic and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Intestinal Diseases and from Surgical Operations.—Dr. J. E. MacNeill of Denver, Colo., discussed the physical characteristics of Colorado affecting its climate, the mineral springs of Colorado, and cited some generally accepted facts regarding mountain climates applicable to the State. He also discussed the value of high altitudes with their rarified air and direct sunlight in the treatment of abnormal conditions, and finally the electric conditions.

Digestive Disorders in Consumption, with Notes on Mixed Infections.—Dr. Paul Paquin of Asheville, N. C., regarded consumption as a mixed infection and the plague of civilization. The majority escaped this disease not because they were not attacked, but because they resisted the attack. Here was a problem of protection. A condition that would prevent the germs of consumption from developing in the system, and if they did get a start in growth, a condition that would stop them. The digestive apparatus was the system on which the vital energy chiefly depended. If it did not carry on its functions with sufficient effectiveness and persistency, life was a nightmare, and when an individual was sick, recovery was a serious problem. So with respect to consumption, the most vital question was that of nourishment, whereon one might base such measures of treatment as were deemed best for restoration. Without nourishment of a sufficient kind in quantity and quality, nothing would avail in therapeutics. Tuberculosis could not be arrested without the assimilation of sufficient and proper food. Bearing in mind the pathology of the gastro-intestinal affections accompanying consumption, a normal condition of the mucosa must be restored before good digestion can take place. Among the local measures to this end were stomach and high intestinal lavage. He had known patients who were declining steadily from the ravages of consumption and dyspepsia to gain from two to four pounds a week after the beginning of weekly or semiweekly lavage of the stomach alone. As specific measures, serotherapy, the cacodylates and iodine offered the greatest aid in preventing organic changes. Immunizing antitubercle serum was effective, because it was antagonistic to the tubercle toxins, which were in a large measure responsible for such lesions. Mixed infections in tuberculosis offered the greatest complexity in the dyspepsia accompanying them. He thought it was due to the effect of a combination of the numerous kinds of germ-poisons produced in such cases both in the lungs and alimentary canal.

Tuberculosis and the Ultra-violet Ray.—Dr. Albert E. Sterne of Indianapolis, Ind., spoke of the division of the sun's rays, dwelling particularly upon the actinic or chemical rays of light, and the identity of those emitted from the voltaic arc with those of the solar planet. From this he had elaborated a method of treatment for which it was claimed that most excellent results had been attained, both in a general and local manner. The nude body was exposed to intense light from powerful voltaic arcs, and in addition free ozone was developed from a special ozonating apparatus. In local applications only one pole was used, and this was connected with vacuum tubes devised for different portions of the body to be treated. Dr. Sterne claimed most excellent results in almost all conditions of debility, notably in neurasthenia, and in the primary stages of tuberculosis. His conclusions are: (1) Actinic rays are chemical in their quality, but of small caloric value; (2) they exist mainly in the ultra-violet zone of the spectrum; (3) actinic rays derived from high-power electric lights are similar or identical to those of solar origin; (4) their use is as rational as sunlight itself; (5) their value lies in their decomposing but at the same time reconstructive molecular action upon the body tissues, mainly the blood-elements; (6) their activity is enhanced by the generation of ozone in free and nascent form; (7) their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system; (8) their germicidal action is especially pronounced on account of the fact that germs can exist in the presence of free or nascent oxygen in either bi- or tri-atomic form.

Sanatorium Treatment of Pulmonary Tuberculosis at Home.—Dr. Robert H. Babcock of Chicago divided the sanatorium treatment into four classes: Pure air, nourishment or forced feeding, hydrotherapy, and a strict régime or control of the patient's daily life. The open-air treatment was obtained by the patient being exposed on a balcony or in properly constructed shutters where he was protected from cold winds and clements and kept in the open air, sometimes even when the temperature was as low as 13° F. below zero. Among the conditions which indicated rest in the open air were progressive loss of weight and cardiac asthenia. When patients had passed out of the stage in which these conditions existed and were convalescing, then exercise was permitted, the exercise being carefully determined by the medical attendant. The nourishment of the patient was not only carefully selected with reference to a proper proportion of proteids, which should be large, but also included the proper amount of carbohydrates. Milk, raw eggs, meat and its varieties, poultry and fish, etc., were the articles on which reliance was chiefly placed. Hydrotherapy played an important part in the treatment. Hydrotherapy was applied for the purpose of stimulating nutrition, toning up the circulatory system, and overcoming the hypersensitiveness of the skin which existed in so many tuberculous patients. As to the control of the patient, a very important element in treatment, every patient should be controlled from the time he got up in the morning until he went to bed, and this was done by the supervision of a skilful medical attendant and nurses. The temperature was carefully recorded, and even the recreations in which patients indulged were selected by the medical attendants with a view to the prevention of excitement, for to many of these patients even mental emotion was deleterious. Speaking of the home treatment of tuberculosis, Dr. Babcock detailed it at considerable length, saying that the majority of medical practitioners were not fully alive to the importance and value of this treatment, and were not properly instructed in the details or method.

Tent-life in the Treatment of Tuberculosis.—Dr. A. Mansfield Holmes of Denver, Colo., said that pure air and sunshine were two important factors in effecting a cure of tuberculosis. Tent-life was the most important means of securing the advantages of these factors. The author called attention to the essentials of an ideal tent-cottage,. and gave rules for governing tent-life. Those who had had no experience with tent-life invariably entertained an exaggerated idea of its dangers and inconveniences. A short experience soon dispelled this fear, and patients were with difficulty induced to return to an indoor life. Extended experience with tent-life in Colorado justified him in making the following deductions: It increased the appetite; improved nutrition; diminished cough; night-sweats ceased; sleep was improved; weight increased; fever decreased, and the tendency to take cold was diminished. A model of the tent-cottage adopted by the Rocky Mountain Industrial Sanatorium was exhibited, showing improved methods of construction and ventilation.

How Not to Be Nervous.—Dr. Hugh T. Patrick of Chicago selected this subject for his address in medicine. He said that the initiative of all therapeutics should be prophylaxis. Prevention was paramount to cure. The first and most effective preventive of nervousness was a reasonably long line of first-rate forbears. In order to present a specific illustration of the force of inheritance in the genesis of functional nervous affection, he had tabulated from his office records 100 consecutive cases which might be included under the general term nervousness, and he found that in 70 per cent. of them a neurotic heredity had been in evidence. While a bad heredity was the most frequent and most potent factor in the production of nervousness, knowledge of this fact should not lead the profession into apathetic resignation, but rather make it face the difficulty with wise determination. Next to the omnipresent, inevitable laws of inheritance, came the never-ceasing formative power of environment. Reaction to extraneous influences began at birth, and ceased only with the extinction of life, but childhood and youth were the plastic stages.

For preventing nervousness in the child or removing that already present, he thought that there was nothing so effective as the toughening of the body and mind. A child who was made to have tough muscles, strong lungs and a vigorous digestion; who could stand changes of temperature and endure pain, was already a long way from nervousness. More important still was toughness of psychic fiber. The child who could support disappointment, who could be crossed without a tantrum, and who habitually obeyed was building a bulwark against nerves; and the child who was not easily frightened, had self-control and a budding courage had nipped half a dozen neuroses in the bud. But to procure this toughness a certain exposure to bodily discomfort and mental hardship was necessary.

The author discussed at length the prophylaxis of the neuroses in children, and then passed on to the consideration of adult life. He said a deal of nervousness was caused or helped along by misdirected energy, misplaced worry, longing for baubles, the fighting of phantoms, etc. To recognize the important things in life was one of the most difficult tasks of judgment that came to the individual. To sum it all up, the author said: "If you wish never to be nervous, live with reason; have a purpose in life and work for it; play joyously; strive for the unattainable, never regret the unalterable; be not annoyed by trifles; aim to attain neither great knowledge nor great riches, but unlimited common sense; be not self-centered, but love the good, and thy neighbor as thyself."

Neurasthenia.—Dr. George F. Butler of Alma, Mich., said that neurasthenia was the expression of nerve-tire of the central nervous system and its consequences. Nerve-tire of the central nervous system implied acceleration of the action of the excitomotor ganglia of the organ, first with increased functionating of these organs, and secondly with exhaustion and its consequences. In this way central nerve-tire, finding expression along the line of least resistance, produced local organ expressions which were claimed as the cause of the constitutional condition. From these local expressions a vicious circle often resulted which aggravated the original condition. As overaction of the organs implied underelimination, autotoxemia of a very poisonous type, like all products of nerve-waste, necessarily followed nerve-tire. From this, renal and hepatic disturbance was added to the clinical picture and intensified its blackness. Neurasthenia might occur alone, or might be an expression and complication of any constitutional disorder. In such case both the nerve-tire and the constitutional disorder required treatment. The neurasthenia resultant on phthisis, nephritis, diabetes and syphilis was a true neurasthenia which, if not treated, intensified the disorder which gave it birth. The treatment of neurasthenia consisted in the relief of the nerve-tire and conditions underlying it through proper diet, hydrotherapy, balneotherapy, relief of insomnia and removal from an etiological environment. Neurasthenia untreated might produce degenerate offspring, especially if the patient be a woman.

Criminal Responsibility of the Epileptic.—Dr. John Punton of Kansas City, Mo., gave a brief summary of historical data defining the line of demarcation between empiricism on the one hand and scientific knowledge on the other in reference to the study of epilepsy. A modern conception of epilepsy was based upon the science of cerebral localization. He drew the following deductions: (1) That epilepsy is a symptom of some brain-disease; (2) that its continual presence tends towards mental deterioration; (3) that the mental responsibility of the epileptic depends upon the extent to which mind or self-control has been impaired by the epilepsy; (4) that the legal test of insanity is not sufficient, as mental irresponsibility is not incompatible with a knowledge of right from wrong; (5) that epileptics are to some degree, at least, responsible for criminal acts, more especially when the epilepsy is produced by their own default; (6) that criminal acts of epileptics appeal to medicine rather than law for their proper adjudication; (7) that in all cases of murder where epilepsy is proven the law should be amended to allow of life-commitment to an insane asylum rather than to a penitentiary; (8) that the mental responsibility of the epileptic in case of murder should be referred to a medical commission, appointed by the court, which again may be referred to local or county medical societies to name its members.

Sudden Atrophic Influence of Craniospinal Nerves.—Dr. F. E. Coulter of Omaha, Neb., reported a case and described the areas involved. He also presented a report of normal and abnormal productions, mentioned the possible etiological factors in the case, citing other cases, and declaring that under certain conditions craniospinal nerves may exercise a sudden atrophic influence on the skin and the appendages thereof. That the results in the case reported were due to a disturbance of this nature he thought he was warranted in concluding for the following reasons: (1) All the hair was normal before the attack, but within three days after the attack it all disappeared from the areas described; (2) the character of the new hair was such as would be the natural product of a faulty nutrition, and whether due to the production of a toxin or the sudden diminution of the normal elements it was difficult to decide, though it was known that the abnormal hair was smaller in size, length and diameter, and markedly deficient in pigment substance; (3) the fact that this was a bilateral lesion would naturally indicate that one was dealing with a blood-condition, possibly a toxin formed by the very sudden and severe convulsive state and manifesting itself on this particular nerve-trunk because of some histological character in its composition that we as yet were unable to detect; (4) that in this particular case we did not have an example of that strange, yet interesting, condition of change in color, a decolorization of the hair seen after a very great fright or severe mental anguish, which in a short time changes the color of the hair completely, but instead a definite nutritive alteration, acute in character.

Hebephrenia or Childhood Insanities.—Dr. W. B. Fletcher of Indianapolis, Ind., spoke of the causes, character, prevention and treatment of the various forms of insanity incident to children prior to and during the period of puberty. The writer had observed 300 cases of hebephrenia in the city in which he lived. He cited some interesting cases.

Sympathetic Eye Diseases.—Dr. James Moores Ball of St. Louis, Mo., made a clinical division into sympathetic irritation and sympathetic ophthalmitis. He discussed the diagnosis, symptoms, etiology, prognosis and treatment of sympathetic irritation. Speaking of sympathetic ophthalmitis, he said it was one of the most formidable and obscure of ocular affections. Only uveal inflammation which was caused by bacterial infection could produce this disease. He mentioned the date of appearance, frequency, symptoms, and divided the affection into uveitis serosa and sympathetic fibrinous uveitis, saying that the former was relatively mild, while the latter was a malignant affection. Sympathetic papilloretinitis, which rarely was the sole manifestation of sympathetic ophthalmitis, was likewise discussed. Other sympathetic affections had been described without gaining recognition from ophthalmic authorities. He spoke at length on the prognosis of sympathetic affections, and then passed on to a consideration of the pathology and pathogenesis of sympathetic ophthalmitis, discussing the prophylaxis and treatment of these diseases.

Toxic Amblyopia.—Dr. J. W. Sherer of Kansas City, Mo., presented a clinical report of five cases of toxic amblyopia from methyl alcohol that had been seen by him. In all a degree of blindness rapidly followed drinking the poison. The eyes appeared normal externally, with pupils slightly dilated. The media were clear. There were no hemorrhages. Early there were no fundal signs, but later atrophy was visible. The fields were contracted and showed absolute central scotomata. One case was complicated by some involvement of the peripheral nerves of the lower limbs. The pupillary reaction corresponded to the description of Lauder-Brunton, who found it to be the reverse of the Argyll-Robertson reaction. Pathologically the condition was that of peripheral neuritis affecting the optic nerves or retrobulbar optic neuritis. Much work had been done by different observers to demonstrate experimentally the minute changes. Degeneration of the ganglion-cells and macular layers of the retina occurred. This was partly due to vasoconstriction and diminished blood-supply, and partly to the action of the poison. Consecutively the nerve fibers degenerated. In the experiments with quinine there was synchronously with the onset of the amblyopia chromolysis of the retinal cells, edema of the pericellular spaces and wasting of the ganglion-cells. In filicic neuritis it was found that all the nerve-fibers had melted away by the fourth day. Undoubtedly, the primary effect was on the fibers, but the cells were probably simultaneously attacked. There was an analogy between the retrobulbar neuritis of tobacco and alcohol and filicic neuritis, both being an acute parenchymatous neuritis.

Diseases Preceding and Following the Use of Alcohol and Opium.—Dr. T. D. Crothers of Hartford, Conn., said that he regarded the use of alcohol as one of the most subtle and serious causes of disease. Clinical study pointed out many distinct lines of disease which preceded inebriety, of which syphilis, trauma, dementia and toxic states were most common. Neurasthenic conditions and tubercular diatheses preceded the use of spirits. Atrophic and hypertrophic sclerosis always followed the use of spirits. An early recognition of the organic changes which preceded and emerged into inebriety would enable one to practically prevent the disease.

Treatment of Typhoid Fever with Castor Oil.—Dr. C. C. Bass of Columbia, Miss., reported 32 cases of this disease treated with castor oil, and except in a very few of these cases in which he gave some other medicine to meet some special symptom he gave nothing else than castor oil. Thirteen cases were treated with one dose every 24 hours, and 19 cases with a dose every 12 hours. The results following the treatment were very gratifying. He commended this treatment as worthy of further investigation.

Croupous Pneumonia.—Dr. Wm. T. English of Pittsburg, Pa., discussed some of the signs and symptoms of this affection. He also dwelt at length upon the easiest and best methods of speedily and certainly determining them. He mentioned the application of remedies suitable to the case and stage of the malady; the advantage of grouping some phenomena in securing a speedy diagnosis, and the necessity for observing all signs and symptoms in differentiating diseases with similar manifestations.

Pneumonia.—Dr. Wm. F. Barclay of Pittsburg considered the clinical history of pneumonitis; the close relationship between pneumonia and la grippe; the similarity in pathology, initial stages, clinical history, mortality and treatment. The exciting causes of pneumonia and la grippe were identical. The history, duration and progress of these diseases differed but little. The two diseases frequently coexisted in the same individual. The affections differed in the structures of the organs affected. He believed a rational treatment was based on a study of the immediate causes of death in pneumonia, as concluded in a large number of death-reports in the city of Pittsburg. Heart-failure and exhaustion stood out as the immediate cause of death in 98 per cent. of all reported deaths in a circumscribed area of almost 1,000,000 people. He had learned from experience that a most decided course of medication was indicated in the treatment of pneumonia, and that a like course of treatment in cases of la grippe robbed the disease of its terrors. First in importance was rest in bed in well-ventilated rooms, with requisite protection from atmospheric influences; secondly, a thorough cathartic of calomel was essential in bringing about a decisive derivative action of the secretions of the body. Five to ten grains of calomel, with 30 to 60 grains of milk-sugar was a formula that had never disappointed him in its beneficial effect. The action of nux vomica, when properly administered, never failed in its power to alleviate the symptoms and afford relief. Tincture of nux vomica should be given in large and frequent doses, well diluted in water.

Treatment of Chronic Dysentery.—Dr. John L. Jelks of Memphis, Tenn., said that the disease was considered of microbic origin, although a specific organism had not received general acceptance as the sole causal factor. This was the basis of all treatment. No matter what the classification of the disease, the same general idea as to treatment must obtain; namely, the destruction of the micro-organism, drainage, cleanliness, rest and restoration of the tissues. An erroneous idea had prevailed that the disease was beyond reach of any possible topical medication, further than perhaps the use of the Wales metal bougie, which was not always a safe procedure. The sigmoidoscope and long rubber tube had a field in the treatment of this affection, and it was necessary to educate the profession as to the possibilities of this method. The patients should be placed in sanitary surroundings, free from unnecessary heat and moisture. The diet should be carefully selected. The stomach should receive careful attention. The portal engorgement should be relieved, and the intestinal tract thoroughly cleansed. Hemorrhage from the bowel, when profuse, could be controlled by styptic enemata given through the double tube. In using the sigmoidoscope the author recommended the knee-chest position. The bowel should be thoroughly cleansed through this instrument with antiseptic washes applied very hot. If there was much excoriation or ulceration nitrate of silver might be applied to bleeding and eroded surfaces with a cotton probang, or in the form of a spray. Higher treatment may be administered through one or two tubes of soft rubber, which can be passed further into the colon, and the antiseptic solution administered by enema through these. If necessary, boracic acid, iodoform, or aristol may be insufflated through the sigmoidoscope and the bowel thus thoroughly covered. In the chronic state he had found most benefit from iodoform and ichthyol made into suppositories and passed through the sigmoidoscope into the sigmoid. This was especially indicated in tubercular conditions, but had its use in any form of proctosigmoiditis or colitis. All toxic drugs must be used with caution.

(To be continued.)

THE NEW YORK ACADEMY OF MEDICINE.

Section on Genito-Urinary Surgery.

Stated Meeting, Held October 15, 1902.

John Van der Poel, M.D., in the Chair.

Urine Separator (Diviseur Vésical Gradué) of Dr. F. Cathelin, of Paris.—Dr. John Van der Poel presented this instrument, which had been demonstrated to him by Dr. Cathelin, and he had used it himself with good results. It was simple in construction, and could be used by most operators, requiring but little technical knowledge beyond knowing how to irrigate a bladder and pass a lithotrite. The shape is that of a lithotrite, corresponding to No. 25 of the French scale. In the center of the shaft is a flat piston, at the distal end of which, when in situ, is attached a thin rubber membrane, stretched upon a fine wire, forming an ellipse. This is pointed at its proximal extremity, where it fits into and divides the posterior urethra, and rounded at its outer end, where it approximates the posterior and upper walls of the bladder. It is about nine cm. in length by six cm. in width, its shape naturally being determined somewhat by the conformation of the bladder, which it however does not alter, the bladder on the contrary, fitting more about it. On the sides of the instrument are two small canals running throughout its entire length down to the point where its urethral curve begins. Into this are passed two small catheters, corresponding in size to the ordinary ureteral catheter, and which, when in position, point downward and outward into the deepest part of the bladder, collect the urine as it is excreted, and carry it out to separate glasses or tubes arranged for the purpose. The entire instrument, with the exception of the catheters, can be sterilized by boiling, and the catheters by the formaldehyd vapor.

The procedure is as follows: After sterilization, the catheters are passed through their canals, are tested by injecting through them a small amount of (sterile) water, and then withdrawn sufficiently to bring the eye back into the canal of the instrument. The membrane, or more properly the diaphragm is then attached to the distal end of the piston, by fitting into a slot, where it is made secure by a small tack or projection, held in place by means of a spring. The diaphragm is then oiled (lubrichondrin being preferable) and withdrawn into the shaft of the instrument by withdrawing the piston, until the figure "O" appears on the withdrawn piston, at the same time keeping the index-finger of the left hand at the point where it passes into the shaft to protect its edge from being rubbed by the edge of the opening, the figure "O" indicating (when in the bladder) that it (the diaphragm) is entirely within the shaft.

The patient's position is the dorsal one, with head only slightly elevated, knees flexed and thighs separated as usual, with sufficient room in front to allow the "stand" and "support" (consisting of the metal box-cover and a sliding rod and grip or "lyre," moved and fixed at any height to accommodate male or female examination) to be placed. The bladder preparation is the same as for a cystoscopy, *i. e.* irrigation, until the return fluid is clear. A knowledge of the bladder-capacity is necessary to determine the degree to which the diaphragm shall be introduced into the bladder—not the greatest capacity, but the point at which the patient experiences the first desire to micturate, the degree to which it is introduced being determined and controlled by a scale on the piston.

As a large number of the patients in whom we are desirous of differentiating the urines have but a small bladder-capacity, it is evident that an instrument which can be used in a very contracted bladder for this purpose is a valuable addition to the means which we have at our disposal for establishing or proving a diagnosis. Dr. Cathelin has successfully employed it in a bladder of but 18 grams capacity, where it rested in situ for 14 minutes.

After washing the bladder and determining its capacity, 10 c.c. of fluid should be injected and left, in order to obtain siphonage. The instrument is then introduced, and the catheters protruded, the beak being drawn back so that it fits snugly against the symphisis pubis, which brings the opening where the diaphragm is to protrude, into the posterior urethra. The diaphragm is now protruded, according to bladder-capacity, its proximal or urethral end fitting into and dividing the posterior urethra into lateral halves, exactly as the rest of it divides the bladder proper into two lateral chambers, thereby making the separating wall complete, at least throughout the inferior surface of the bladder, and thus preventing mixing of the two urines.

The sittings should not require over 25 minutes at the outside, the first eight or ten minutes being allowed to "balance" the working of the instrument and empty the bladder of the fluid left behind to start the flow. The separate urines are then collected in glasses or tubes specially constructed, to which is attached a scale to determine the amounts drawn off. To release the instrument, first withdraw the catheters and then the diaphragm into the shaft, and remove as one would a sound or lithotrite.

The disturbance to the bladder-wall is practically nil, and there is no pushing of it upwards, as in the Harris-Downes instrument. Naturally where there is vesical hematuria, it would be useless to employ any separator, and ureteral catheterization would come into play if it were necessary to go beyond the bladder.

Dr. Chas. L. Gibson said he was sorry that he did not bring the segregator of Dr. Luys. He believed it to be a simpler instrument than the one presented, shaped like a lithotrite, with a diaphragm operated by a screw at the handle, and a rubber bridge, which alone forms the division of the bladder. It can be worked only in an empty bladder. There are no catheters attached and the bladder-urine flows directly into the openings on either side of the diaphragm. From that standpoint he thought it was superior to this instrument although the one presented seemed more effectual. It did not exclude bladder-contamination which was a point quite fatal in all these instruments. It might be wisest to employ all of them a control by injecting on one side some methyl-blue, to ascertain if there is leakage on the other side.

Specimen of Vesical Calculus.—Dr. George K. Swinburne said he had a case last summer that presented some features of interest. A calculus, rather soft, was removed by litholapaxy. The method by which he discovered that the patient had a calculus he thought might be of interest to the section. The patient had frequency in urination, the urine was cloudy, there was pain at the end of urination, and no venereal history was given. At the clinic he had so many patients with prostatic trouble presenting similar symptoms that he thought that possibly prostatic trouble might exist in this instance. Examination by the rectum revealed a condition which exactly resembled an enlarged prostate, but pressure with the finger seemed to cause one-half the prostate to disappear. It seemed to him as if a calculus was wedged behind the prostate when the bladder emptied itself, and to the finger its rectal surface was continuous with that of the prostate. A searcher introduced into the bladder at once revealed a stone. This patient had only been in this country about two months and he had had the pain about six months. Another feature of interest in this case was the question whether litholapaxy or a cutting operation was better. At first he believed that the stone might be contained in a cavity behind the prostate, but when fluid was introduced into the bladder for cystoscopic examination the stone was shown resting on a perfectly flat surface, and it seemed to him a clear case for the operation of litholapaxy. The operation was done in a tenement-house, on the ground floor, in a dark room, and under the influence of chloroform. After introducing the lithotrite and catching the stone between the jaws there followed a sensation exactly like that when the stone slips from the grasp of the instrument. Again he caught the stone, and thought he had caught a smaller end of it, and on closing the jaws thought it had again slipped. The third attempt was followed by a similar result, and then he could not find the stone. After ineffectual search for the stone, the evacuator, when introduced, brought away all the fragments. The stone had been crushed by three movements of the lithotrite. Such an experience had never occurred to him before. Of course it was due to the softness of the stone. The operation was performed last August, and the patient is in good condition today.

The sensation described of pressing the calculus into the cavity of the bladder from where it seemed wedged behind the prostate was verified four days in succession. It occurred when the bladder was empty, and made him think it had formed a pocket for itself behind the prostate. The cystoscope, however, showed no sacculation whatever.

A Case of Rectal Gonorrhea.—Dr. Frederic Griffith presented the history of the result of pederastic acts upon the part of a patient, and it gave a glimpse of a form of male prostitution as carried out in this city, and showed furthermore the precautions which seemed necessary, as had been shown in the recitals of Kraft Ebing, and which were taken in this case to prevent blackmailing of those who participate in this form of sexual indulgence. J. M., a male twenty years old, a driver by occupation, had always been healthy and possessed a well-formed body. Said he had indulged in sexual intercourse very frequently. He came for treatment for a violent, creamy, yellow discharge from his penis which had lasted three days. His statement of the source of his trouble was that seven nights before, while lounging on a corner, he was approached by an affable stranger who invited him to visit a saloon. While not in the habit of indulging in intoxicants, he accompanied his new-found friend and partook of a glass of beer. Entering into conversation, he was invited and accepted an invitation to take a trip to Philadelphia. Although himself without money, his new friend appeared to have plenty of means. The pair journeyed to Philadelphia, and late the same evening secured a room at an expensive hotel, and the end of the proceeding was that M. had intercourse per rectum three separate times during the remaining hours of the night. The two returned to this city early the next day where M.'s friend, before losing himself in the crowd, gave him $5. M. described his erstwhile friend from his build and by his actions as being a "sissy." He had noted also that during penetration the man's buttocks were wet, and that his anus was patulous. M.'s subsequent symptoms were those of a typical gonorrhea, with the demonstration of gonococci.

Calculus in the Kidney.—Dr. Ramon Guiteras reported the case of a laborer twenty-nine years old, who was brought to the hospital suffering from a pain in the right side, which he said had existed for several weeks. Examination showed a cachectic individual, thin, emaciated, with a slightly flexed thigh upon the abdomen. In the right lumbar region was found a mass filling the entire iliocostal space behind and extending well over towards the median line in front. This was ill-defined, having no distinct contour, such as there would have been in the case of a large kidney, and it was indurated to the touch. No fluctuation could be felt. The urine was of a specific gravity of 1,026, high-colored, thick, containing a slight trace of albumin and a large amount of pus, few blood-cells, bladder and renal epithelia, granular epithelial and pus casts and uric-acid crystals. The patient's condition was very bad. His pulse was 130, temperature 102, and respiration 28. He was brought to the operating-table, was quickly anesthetized, and a lumbar incision was made. This was followed by a gush of pus estimated at between one and two pints. The finger inserted into the pus-cavity found a large space in the loin not extending to the pelvis or above the abdominal cavity. The kidney could be felt somewhat enlarged, sclerosed, and in the posterior aspect a hole was found in which the inserted finger felt a sharp foreign body, which was loosened and removed. This proved to be a calculus an inch and a quarter long and one-half an inch in width. The wound was quickly packed, the incisions made smaller by two ligatures through the abdominal wall above, the drain coming out below. The patient was discharged from the hospital, but returned one month later in a condition worse than before, with his leg and thigh more flexed. He hobbled to his bed with his hand resting on his thigh for support, and his body bent towards the thigh. The wound was still closed, there was a tumor in the iliac region, and there seemed to be deep-seated swelling in the front of the thigh, extending down midway to the knee. The patient was again anesthetized and the old wound opened, from which pus escaped. A counter-opening was made in the iliac region, which communicated with the lumbar opening. Another opening was made in the anterior part of the thigh, midway to the knee, and more pus was evacuated. Drains were inserted from the lower to the iliac region, and from the iliac to the lumbar. The kidney was densely bound down by adhesions, and it was thought better to wait to see the result of the operation before attempting a nephrectomy. The lower sinuses closed, only one remaining in the lumbar region. The patient left the hospital to recuperate during the summer, and we were to notify him when to come in for a nephrectomy. He now cannot be found.

A New Method of Finding the Urethra in External Urethrotomy.—Dr. Chas. L. Gibson read this paper. The modification of the operative technic was intended to give an immediate and certain entrance to the deep urethra in strictures not permitting the introduction of the ordinary guide. As the result of repeated trial upon the cadaver he found that sharp traction on the prostate downward and somewhat backward will make taut the deep urethra to a degree that makes its recognition unmistakable. With the patient in the lithotomy-position, the rectum is thoroughly washed out, a rectal speculum introduced, and the prostate transfixed laterally from the rectum by a large, sharp hook. A median perineal section is then performed. The left forefinger is introduced into the wound, and as an assistant tugs gently on the hook one readily receives the sensation of transmitted tension of the urethra. The surgeon then directs the bistoury into that portion of the deep urethra which has been made prominent, the probe-pointed director readily glides into the lumen of the urethra, and following it the small metal catheter will demonstrate the successful entrance into the bladder.

Dr. Howard Lilienthal said that although he had had considerable experience in genito-urinary work he could not quite agree with Dr. Gibson when he stated that the operation of perineal urethrotomy without a guide was a simple one. Whenever it is necessary to perform the operation without a guide he felt the responsibility keenly. He thought that any improvement in the technic which would render the operation more certain and especially more rapid was to be desired. A great many lives had been lost due to the long persistence of surgeons in trying to get through the perineum without a guide. In fact, he had lately never hesitated when the patient's condition was poor to perform retrocatheterization through a suprapubic cystotomy. He thought Dr. Gibson's method was an excellent one in that it prevented the making of another wound. Infection of the prostate by a hook through the rectum he did not believe was likely to occur; puncture of the prostate through the rectum rarely caused suppuration. He said he would like to ask, however, if some method could not be devised of operating through the perineum or perineal wound, instead of going through the rectum. If a wide perineal opening be made until we could feel the prostate through it, this certainly should seem feasible, and would not involve the possibility of infection through the rectum. We owe Dr. Gibson thanks, he said, for calling our attention to this simple method of procedure.

Dr. James Pedersen thought that Dr. Gibson deserved great credit not only for the novelty of his method, but also for having proven its value, both upon the cadaver and upon operative cases. With regard to the suggestion made by Dr. Lilienthal that traction on the prostate be made through the perineal opening instead of by way of the rectum, it occurred to him that one of the prime objects of Dr. Gibson's method, rapidity, would be defeated by the time necessary to dissect down upon the prostate.

Dr. Chas. L. Gibson said that in the ordinary urethrotomy through a vertico-median section he had also attempted to produce traction upon the prostate, but never with satisfactory results, never approaching in effectiveness the other method. One must get a good purchase upon the prostate, fix it and manipulate it. He had never tried the transverse incision for such cases, as it involves a rather extensive dissection of the perineum.

Repair of Complete Defects of the Male Urethra.—Dr. A. A. Berg said that the urethra possessed two attributes that are of importance in the consideration of plastic surgery upon it; namely (1) its considerable elasticity, especially in its penile portion, in virtue of which it can be distracted, so as to supply a defect in its continuity between two and three cm. in extent, and (2) its power of almost complete regeneration from a stump. The parts of the urethra that regenerate are the mucosa and cavernous body. Juglianni demonstrated that a small stump of the urethra implanted into one end of an artificial canal made under the skin will grow and gradually line the interior of the entire canal. The types of plastic operations, to supply defects, and the indications for their employment are:

1. The method of mobilization of the urethral stumps; stretching them until the ends meet and uniting them in this position by end to end suture. It is especially applicable to small defects in the penile urethra; e.g. hypospadias, but it can be also employed in the membranous portion of the canal. Its limitations are (a) large defects, exceeding 2 to 3 cm. in extent; (b) lack of mobility of the urethral ends owing to cicatricial tissues; or (c) too great friability of the urethral ends from preceding inflammation.

2. The method by which defects, partial or complete, are healed by the regeneration of the urethra from its ends (Guyon's operation). This procedure has a wider range of applicability, its only limitations being too extensive destruction of the soft parts overlying the defect, or too extensive cicatrization of these tissues.

3. The method of forming a new canal by grafting skin or mucous membrane, either from the immediate vicinity or from other parts of the body, upon the site of the defect and then uniting such grafts to the proximal and distal ends of the urethral wall. This operation has but a limited range of applicability, and is to be employed only where the others are contra-indicated. In the original paper, the technic of the various operations is minutely detailed. The author details two of his cases of large defects of the perineal urethra, due to extensive sloughing, in which the Guyon operation was employed, with complete restoration "ad integrum."

Dr. James Pedersen thought that the paper by Dr. Berg was most interesting and instructive, particularly because it is generally held, he believed, that the defects in the perineal portion of the urethra ordinarily take care of themselves, so to speak. The urethra there will reproduce itself for quite a distance, as a rule, if treated properly, but cases do occur in which there is failure, as cited by Dr. Berg. He wished the doctor had detailed one or more cases of defect in the middle penile portion, for it is there that defects are hardest to repair. Defects near the meatus are somewhat easier, provided there is integument enough for a flap. In two such cases he had had satisfactory results from a very simple plastic operation. Last winter he had a case that presented a large defect at the penoscrotal angle, in which he obtained a perfect result by using a part of the scrotum for a flap. In the first two cases perineal drainage was maintained during healing; in the third case advantage was taken of a necessary suprapubic cystotomy for calculus.

Dr. Howard Lilienthal said that he had found it of decided advantage not to close the skin by stitches in cases of this nature, indeed, not to close the skin opening at all, and for the following reason: On one occasion it was his misfortune to have a leak between sutures in a septic case, and there was a complete going to pieces of the entire line of union. There was a dissection of the subcutaneous tissues by pus. If the line of urethral stitches is covered by rubber tissue, and then by gauze, and bandaged firmly, then even if there is a little leak of urine it will find its way out, and if there is no tension during granulation this opening will close spontaneously, whereas, if skin sutures be introduced suppuration may take place beneath the skin and the entire wound will rupture.

Dr. Chas. L. Gibson said it was very interesting to listen to the views already expressed. His own experience had only been with traumatic cases, the classical kind from accidents. He had never attempted to make a complete repair of the divided ends of the urethra, for it did not seem to him to be necessary. The thing to do was to approximate in parts the ends of the urethra, and usually the healing process will easily take care of itself as in repair after external urethrotomy. The catheter should remain in a reasonable length of time, 10 days to two weeks.

A young boy that he saw this summer almost duplicated Dr. Berg's case. He was eleven years old. He received an injury in the usual way, falling astride something. When seen on the fourth day there was extravasation of bloody urine. He found the two ends of the divided urethra and placed in two fine catgut sutures which approximated the roof of the canal. He began to pass a sound so soon as the sinus appeared to close in and narrow. He took a No. 14 French sound and continued to do so until quite recently, when he could only take a No. 10. Under chloroform he rapidly passed sound after sound up to No. 23 French. He thought we could get union from simple procedures, and that we should drain these cases as after an external urethrotomy.

Dr. John Van der Poel was inclined to agree with both Dr. Lilienthal and Dr. Gibson in what they had said. He had had somewhat the same experience as Dr. Lilienthal mentioned and he preferred simply to close the urethra at the beginning, and trust to granulation to do the rest. In case a few drops of urine should leak, it can do no damage, and granulation will ultimately close the wound.

Dr. A. A. Berg said that, with regard to the immediate suture of the two urethral ends, its advisability would depend very much upon the condition of the parts at the time of the primary operation. It would not be a good procedure in infected sloughing tissues; it would be apt to yield best results in clean tissues where the urethral ends are not too far separated, or where the nepture is incomplete. As to the suggestion of dealing with a partially or completely lacerated urethra, in which there is a loss of substance of the urethral wall after the fashion of an external urethrotomy, it must be borne in mind that after even a simple external urethrotomy, where there is no destruction of the urethral wall, but merely a linear incision in its long axis, a perineal urethral fistula at times persists. This is due to the lining membrane of the urethra growing out and covering the sides of the perineal wound, thus forming a mucous fistula. There is at present in the wards of Mt. Sinai Hospital such a case; a young man upon whom an external urethrotomy was performed for stricture at one of our city hospitals. To close this fistula it is necessary to dissect out and remove the lining membrane of the walls of the fistula, and then close the urethra by suture. Some cases of partial rupture will heal, if they are treated after our fashion of dealing with cases of external urethrotomy; yet there are more of them in which (as in my second case even after 28 days) there will be no tendency to a closure of the defect.

As regards complete closure of the perineal wound, Guyon never met with a serious suppuration of the stitch-holes. In one of his cases, the stitch-hole infection did not interfere with healing. If the skin is left open, a secondary infection from the rectum may occur. The ultimate result in a majority of the cases will be better if the wound is completely closed. Defects in the penile urethra do not come under the class of cases to which the Guyon operation is applicable. They are best treated by mobilization and suture of the urethral stump.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held October 7, 1902.

The President, Joseph Collins, M.D., in the Chair.

A Case of Generalized Scleroderma.—Dr. B. Sachs presented a lady, twenty-four years of age, whom he had first seen six years ago with ordinary hypochondriacal neurasthenia. When next seen, last year, she stated that during the past few years she had noticed that the upper and lower extremities had begun to be stiff and more or less painful on movement. She was not aware at the time that there was anything especially wrong with her face. At present the face shows a very marked form of scleroderma, and she also has distinct sclerodactyly. Six months ago there was so much retraction of the upper lip, as a consequence of the retraction of the skin, that the gums were constantly exposed. The hands show marked tenseness and glossiness of the skin, attenuation and clubbing of the fingers, and an apparent subluxation of the middle finger at the metacarpophalangeal articulation. An X-ray photograph shows that the latter is due to the wearing away of the bone under abnormal pressure. There is also a general scleroderma in this patient extending from the forehead to the middle of the abdomen. The lower extremities are only sclerodermatous in certain areas. There are also some areas of leucoderma. The speaker said that this woman had shown a certain amount of improvement under thyroid medication. She had taken as much as 18 grains a day without detriment, and had also had warm baths and exercises, with the object of improving the condition of the integument and underlying tissues.

Dr. George W. Jacoby said that he had been one of the first to act upon Dr. Sachs's suggestion regarding the use of the thyroid extract, and he was convinced that this treatment accomplished something. About a year ago he had himself reported two cases, in children, in which the skin had become almost perfectly pliable as a result of thyroid treatment. The changes in the fingers had been very much more marked than in the case now under discussion. Of course these pathological conditions did not retrograde. He did not think the pressure of the retracting skin was sufficient to explain the marked bony changes observed. In his opinion, the thyroid treatment was the only one that held out any prospect of success, and it was particularly useful in children.

Dr. Joseph Fraenkel said he believed there were two types of scleroderma, the localized and the generalized. The latter appeared to him to be an expression of a rheumatic tendency. For the last four months he had had a case under observation which had done very well under antirheumatic medication, particularly the use of the salicylates. Ordinarily the thyroid treatment seemed to be the best method.

Dr. Joseph Collins said that he had had some experience with the thyroid treatment and, while he had observed improvement, the results were not at all comparable with those reported by Dr. Sachs and Dr. Jacoby. All that he thought the thyroid did was to diminish the subcutaneous fat. This, of course, made the skin much more pliable over the affected area, and reduced the mask-like appearance of the face. In his opinion scleroderma was a disease of the spinal cord and of the sympathetic fibers and cells within the spinal cord. The symmetry, chronicity, course and termination were all explicable on this theory. He hoped soon to have an opportunity of making a postmortem examination upon a marked and advanced case of general scleroderma. In that patient sensory changes were occurring which pointed strongly to involvement of the conducting pathways of the spinal cord. As young persons have a marked accumulation of subcutaneous fat, and this fat could be very readily increased or diminished, it was easy to explain the good results just reported by Dr. Jacoby.

Dr. Sachs said that in the patient he had just presented there had been an extremely disagreeable appearance of the face a few months ago, resulting from the attenuated state of the nose, a part having very little subcutaneous fat; yet this part had very decidedly improved under the thyroid medication. He would be greatly surprised if scleroderma proved to be an affection of either the spinal cord or of the sympathetic system. The disease seemed to be diametrically opposite to two other diseases—acromegaly and myxedema. He was inclined to think that scleroderma was possibly a general glandular affection involving not only the skin but the subcutaneous tissues and even the bones.

Dr. Edward D. Fisher presented a young man who had first come to his clinic about one week ago. The man was twenty-one years of age, an electrician by occupation. He was apparently well up to the time of enlistment in the Spanish-American war. Over one year ago the left foot began to twitch on attempting to walk. In February, 1902, the right leg became involved, and later the muscles higher up, even in the back. At present all of the muscles below the ribs became more or less contracted on attention. There is no loss of sexual power nor of sensation. The electrical reactions are normal. On standing up there is a twisting of the body and spasm in the feet, the latter causing him to walk on the outer borders of the feet. The process had lately extended upward, so that there was now a mild affection of the muscles of the hands and arms. The diagnosis seemed to rest between myotonia and some functional disorder.

Dr. B. Sachs said he had had an opportunity of examining this man about two weeks ago, and had been impressed with the possibility of the condition being hysterical. He had examined the muscles electrically, and had found them abnormal. There were distinct evidences of a myotonic reaction, a long-continued wave which started in one part of the muscles and spread up slowly between the electrodes. Moreover, with the object of excluding hysteria he had at first applied a current which was very mild, not letting the patient know that he was doing so. As the current was gradually increased up to the point which should produce a muscular contraction, this wave-like contraction was observed.

Dr. J. Fraenkel remarked that he had seen this patient at the clinic, and that Dr. J. Ramsey Hunt had been unable to obtain the myotonic reaction.

Dr. George W. Jacoby said that these cases emphasized the difficulty of making the differential diagnosis between myotonia and hysteria. He had presented a case of myotonia acquisita to the American Neurological Association. All of the myotonic symptoms were present, and there were the electrical and mechanical reactions characteristic of myotonia. A microscopical examination, however, yielded results that were difficult to reconcile with this diagnosis. Dr. Jacoby said he made a bad prognosis, and had subsequently learned that the man, after winning a lawsuit against a railroad company, became perfectly well.

Dr. Collins thought if the diagnosis of hysteria major was to be made there should be present more stigmata than merely myotonia.

Dr. E. D. Fisher said that the general aspect of the patient had led to the suspicion of a neurosis, but after careful examination the diagnosis of myotonia had been made. The electrical examination had been made last June, and at that time no electrical changes were observed. The man's appearance was certainly that of a neurotic individual.

Radiographs of a Tumor of the Brain.—Dr. George W. Jacoby presented some X-ray pictures from a recent interesting case. He said that he had been taking these pictures in such cases for a number of years, but until now the results had been very disappointing. The diagnosis in the present case was a tumor of the brain in the mid-Rolandic region, and the patient had been operated upon about two hours ago. The tumor had been found in the position diagnosed and corresponding to that indicated by the radiograph.

A Case of Brain Tumor (?).—Dr. William M. Leszynsky presented a man, thirty-one years of age, first seen a few weeks ago. Ten years ago he began to have attacks of headache followed by vomiting. At first, there was only one attack each month, but more recently they had recurred about once a week. Six months ago the headache became more intense, and was associated with vomiting and vertigo, and he was in bed for three weeks. On getting up he had diplopia. Three months ago he became blind, and since then has been unable to walk. There was now moderate general headache and vertigo. There was no history or evidence of syphilis, and no history of alcoholism or of infectious disease. Examination showed no tenderness on percussion over the skull. There was some rigidity of the muscles of the back of the neck; both pupils were dilated and immovable, not reacting to light or to convergence. Reflex winking was absent on the left, but well marked on the other side. There was paralysis of both right and left abducens nerves, paresis of both internal recti and an inability to converge. Vision was completely absent in both eyes, and there was marked neuroretinitis on both sides, but no choked disk. There was partial paralysis of the seventh nerve and of the orbicularis palpebrarum. There was an actual deviation of the tongue to the left. The grasp was good on both sides. There was no paralysis of the lower extremities, yet he was absolutely unable to stand. There was no apparent weakness of the trunk muscles. The case was presented for diagnosis. The question arose as to whether there was a tumor of the cerebellum originating in the vermis, or one that had extended to this part from the corpora quadrigemina. If the pyramidal tract were not affected it was possible that there might be a secondary meningitis.

Dr. B. Onuf suggested that there might be a tumor of the pons.

A Case of Tabes with Marked Bulbar Symptoms.—Dr. I. Abrahamson presented a man of forty-four years, seen at the clinic in the latter part of September. There was a history of marked alcoholism. The present illness dated back to last spring, when diplopia developed, quickly followed by ptosis and lachrymation. The man had lost 30 pounds since that time, and difficulty in mastication and in urination had developed, along with hoarseness and various paresthesiæ of the throat. The temporal arteries were tortuous, the patient was badly nourished and presented evidence of degeneracy. The Romberg symptom was present and the motions of the eyes were restricted. There was marked wasting of both temporal and masseter muscles, with greatly diminished reaction to both electrical currents. The optic nerve showed beginning white atrophy. The knee-jerks and Achilles reflex were absent on both sides, while the bulbar reflexes were lively. Tactile sensibility was nearly normal. The chief feature of the case was the extensive cerebral and nuclear involvement. The case was evidently one of tabes with very marked bulbar symptoms.

Differential Diagnosis of Multiple Sclerosis.—Dr. B. Onuf presented a paper on this subject. He quoted from the literature to show that it was probable that this term, multiple sclerosis, referred to a symptom-complex representing most varied pathological processes. The diseases most apt to be confounded with it were diffuse sclerosis, pseudosclerosis, cerebrospinal syphilis, general progressive paresis, and a number of other diseases, such as tabes, ataxic paraplegia and transverse myelitis. Diffuse and pseudosclerosis had a symptomatology so similar to that of multiple sclerosis that he did not feel the differential diagnosis could be clearly made. The multiplicity of the lesions of cerebrospinal syphilis, and the recurrence of the symptoms after intervals of comparative freedom from them, bore a close resemblance to multiple sclerosis. It was evident therefore that the diagnosis must be founded on a complete clinical picture rather than on one or two individual symptoms. The value of antisyphilitic treatment was great as a diagnostic aid, but the results were not wholly reliable, particularly when marked improvement was not noted within a period of about two weeks. Spasticity was just as frequently observed in syphilis, and the intentional tremor he had seen very typically developed in a case of undoubted cerebral syphilis. Fairly developed nystagmus pointed very strongly to cerebral syphilis as against disseminated sclerosis. Scanning speech was a strong symptom in favor of disseminated sclerosis as against syphilis. There were two symptoms which he considered of great importance: (1) The facial expression, and (2) an emotional state associated often with marked euphoria. These two symptoms were relatively rare in syphilis. Optic neuritis was present in a large percentage of cases of multiple sclerosis, and was often the only symptom in the early stages; however, optic neuritis was very common in cerebral syphilis, though it was more apt to be attended by retinal hemorrhages. The fact that multiple sclerosis was often ushered in by some acute disease was a point of some diagnostic importance. The speech disturbance in general progressive paresis was often quite marked; indeed, this affection should not often be confounded with multiple sclerosis. The number of spinal diseases that might be simulated by multiple sclerosis was very great. In doubtful cases the presence, besides the spinal manifestations, of symptoms pointing to multiple cerebral involvement would speak in favor of disseminated sclerosis, as would also the symmetry and regular distribution of the spinal symptoms. The speech of bulbar palsy might be very much like that of multiple sclerosis, and the patient might also be distinctly emotional.

Dr. Fisher thought multiple sclerosis was most likely to be confounded with cerebral syphilis and general paresis, and yet it was only at certain stages that even here any difficulty existed. The tendency to stupor and attacks of prolonged sleep, and the ocular palsies were characteristic and were not observed in insular disease. In general paresis the flattening of the face, the tremor and the articulation were quite similar, but the mental state was quite different. At times multiple sclerosis might be confounded with hysteria. The disease being very slow in its progress, years might elapse before the true diagnosis of insular sclerosis could be made. It should be borne in mind that insular sclerosis sometimes occurred in young people, at the age of sixteen or eighteen years, a point of differentiation from cerebral syphilis.

Dr. Onuf agreed with Dr. Fisher that the tendency to somnolence was ordinarily a strong symptom in favor of syphilis, and admitted that it was sometimes difficult to distinguish the disease from hysteria.

Arterial Disease in Comparatively Early Life.—Dr. E. D. Fisher read a paper with this title. He said that if one had not established oneself in some definite line of work by the age of forty, one would rarely succeed. This was the law of life. Having excluded syphilis, kidney disease, diabetes, alcoholism and old age there would still be a number of cases of arterial disease having a different etiology. He was of the opinion that cerebral hemiplegia was more than ordinarily common at the present period of our national development. There was an intensity in the pursuit of an object in the Anglo-Saxon race not present in the Latin races. This led us to a very large consumption of tissue. He believed that the so-called strenuous life led to fatty degeneration of the cardiac and arterial muscular tissue. If this view were correct, then the means of prevention were obvious and important. Our social system in the large cities was one of anxiety and overwork. There should be less straining after living, as is the case with the very rich, and a stronger desire for culture and moderation.

Dr. W. B. Noyes raised the question as to whether in the treatment of so many diseases of the nervous system with strychnine physicians were not committing a grave error. The effect of this drug on the arteries was not closely studied, and it had occurred to him that in cases like those described in the paper, in which there was, in his opinion, arterial disease, the persistent use of a drug like strychnine, which increases the arterial pressure, was actually harmful, and more than counterbalanced the beneficial action of the remedy upon the peripheral nerves. He believed that many of those present could bear him out in the statement that iodide of potassium frequently benefited many cases in which there was no syphilitic taint, probably by its effect on the vascular system. He would like to hear from others regarding this view that strychnine and iodide of potassium are, to a certain extent, antagonistic in their action on the vessels.

Dr. Leszynsky said he could not agree with Dr. Fisher in the contention that the so-called strenuous life produces cerebral and arterial degeneration, unless this was accompanied by alcoholism, syphilis or some other toxic cause. He had never seen a patient under forty years of age with a cerebral hemorrhage or endarteritis unless there was some discoverable cause which would lead one to the belief that such conditions had previously existed.

Dr. Sachs said it was interesting to consider whether there was really arterial disease in early life sufficient to lead to apoplectic attacks. Personally, he could not recall a single case of cerebral hemiplegia which was not due to arteriosclerosis, syphilis or embolism, or was not the accompaniment of renal disease. There was only one other vascular degeneration occurring early in life, *i. e.,* a fatty degeneration of the artery, and which explained the very early apoplectic attacks in children. When he had been able to exclude embolism, renal disease and syphilis he had always come to the conclusion that the case was one of early arteriosclerosis.

Dr. Joseph Collins said that he found it very difficult to talk upon arterial *disease*—not sclerosis. He was thoroughly convinced that chronic degeneration of the tunica media, arteriosclerosis, was a disease of the strenuous life, and that alcoholism, rheumatism, syphilis and the so-called metabolic diseases had very little to do with this. A deficient heredity was one of the contributing causes. Another was chronic indigestion of any kind, and a third was worry with work. These were more potent causes of arterial degeneration than syphilis, alcoholism and bad habits. The last named conditions caused peri-arteritis and endarteritis. A second great class of cases was dependent upon infections; some would put these as the first and more important class. We had been taught as students that arteriosclerosis was a disease occurring in those past fifty, but he maintained that this was not true, and that when the disease began at that time it was nothing more than a natural process at that age. A person of sixty-five or seventy years of age becoming ill with an infection like pneumonia usually had the disease in an exceedingly mild form. He would further contend that arteriosclerosis was, at the present day, the scourge of humanity, and that there was no organic disease of the nervous system that could compare with it in its effect upon the production of disease.

Dr. Leszynsky thought the last speaker had begged the question with regard to young subjects. If the strenuous life reacted upon digestion and interfered with assimilation, it caused an intoxication or an infection, and in this way set up an arteriosclerosis. He did not think any proof could be adduced to show that the strenuous life alone produced arteriosclerosis.

Dr. Fisher, in closing, said that a man over forty years of age would rarely start out in a new line of work, although he might continue to do much very good work in old channels up to quite late in life. If he had understood the remarks of Dr. Collins, he did not think their opinions were very much at variance on this topic. By arterial disease he meant any morbid condition of any part of the arteries.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, October 16, 1902.

The Vice-President, Charles L. Dana, M.D., in the Chair.

The scientific business of the evening consisted of the reading of a paper by William H. Thomson, M.D., on "The Pathology and Treatment of Epilepsy."

Essential Symptoms of Epilepsy.—Dr. Thomson said that the more is understood of epilepsy, the more is it appreciated that the disease is absolutely unique in character. The most important question for the diagnosis of epilepsy is, What is the invariable symptomatic element? Epilepsy is usually considered to be a convulsive disease, but it is not always or necessarily associated with convulsions. The convulsive movements of the patient are terrifying, attract attention, and hence have been thought to be most important. Epilepsy is sometimes spoken of as of a mild character. It is doubtful if it is ever mild. There is no such thing as an incomplete epileptic. The patient either suffers from epilepsy or does not. Petit mal is not partial epilepsy, and may very well develop into the severest form of epilepsy. Cases are seen in which some single apparently insignificant symptom indicates to the physician the presence of epilepsy, and before long the beginning of mental deterioration shows their seriousness. It is often said that epilepsy is a discharge of nerve-force, as if there were such a thing as a spontaneous explosion of nervous energy. The idea underlying such expressions, however, is associated with the thought that convulsions constitute the essence of epilepsy, and as will be seen before the end of the paper, the epileptic attack has quite another beginning. Loss of consciousness is sometimes spoken of as the pathognomonic symptom of epilepsy. It has assumed an importance in differential diagnosis that does not uniformly belong to it. Dr. Thomson has had some cases that illustrate this fact very clearly. In one patient there were clonic movements that involved the left leg and the right arm and were entirely controlled by proper treatment, so that the patient was absolutely free from them for seven months after being first seen. Then one day in his office, after the characteristic epileptic cry, the patient's jaws became locked, so that he could not move them at all, though they gave him great pain. All during the attack, he retained perfect consciousness. In another case the attack always began by a period of aphasia. This symptom rarely lasted less than an hour, during which the patient was unable to say a word, though his consciousness remained perfect. His intellectual activity was so acute that he made experimental studies on himself while in this condition and found that he could recognize distinctly the differences between sharps and flats on the violin and that he could play the instrument quite as well as before the attack began. On one occasion his aphasia came on while crossing the Atlantic. He made his way to his cabin and attempted to write a note to the ship steward in regard to his condition. He began it in French, but found that he could not finish it in this language, and then began it in German. He stuck at the same part of the sentence, and then tried it in English, only to fail once more at the crucial point.

Sometimes symptoms that are seemingly without significance may be the forerunners of serious developments in epileptic patients. Dr. Thomson recalled a case in which the parents brought a child who had a queer caper of ducking his head many times a day. The family considered it rather a trick than anything more serious, and rather laughed at it. The child was brought to Dr. Thomson with the idea of having him suggest some means of breaking the supposed habit. At the time of the occurrence of the ducking of the head, Dr. Thomson found that the eyes became fixed and the pupils dilated. He pronounced it epilepsy, and it was not long before signs of mental hebetude began. The child became an idiot within two years and fortunately died not long afterwards.

Protean Symptoms of Epilepsy.—Epilepsy is a protean disease, with psychical as well as convulsive symptoms that may occur with or without loss of consciousness. The mental state may constitute one of the most important features of an attack. The manifestation of seizure may be the performance of some very foolish action like stripping off the clothes, or a slight convulsion may be followed by an attack of mania. In one case, immediately after a convulsion, the patient would get up to rush at any one whom he happened to see nearest to him. No matter how many symptoms there are in the epileptic attack, the first symptom ushers in the epilepsy and is not merely a prodrome of it. There may be a queer feeling in the thumb, or a queer idea in the mind that announces the beginning of the attack. These are not preliminaries.

Invariable Symptom.—There is one unvarying element, he thought, in epilepsy. It is the suddenness of the attack. A little reflection will show that epilepsy is the only sudden disease. Accidents, of course, are sudden, but the development of other pathological conditions, except epilepsy, are gradual. Cerebral hemorrhage may be thought of as sudden, but the development of the vascular changes that lead up to it are gradual. The presence of this symptom gives the clue to the character of a seizure that is in doubt. The symptom is more significant than any other, and is the true pathognomonic sign of epilepsy.

No Spontaneous Nervous Discharge.—There is no such thing in physiology as a spontaneous discharge from a motor nerve. The efferent nervous impulse is always a response to an afferent nervous irritation. The afferent nerve-impulse is always the first nervous phenomenon in any individual. There need not necessarily be any ratio of importance between the afferent impulse and the efferent effect. Dr. Seguin pointed out that 110 muscles are brought into action during the process of sneezing. This widespread nervous discharge may be due to some slight irritation of a branch of the fifth nerve, distributed through the mucous membrane of the nose. The reason why there are no such intense nervous discharges in other parts of the body is that inhibition serves to control other groups of nerves.

Importance of Inhibition.—It is by inhibition that many of the important actions of life seemingly habitual and easy are rendered possible. For instance, it would be impossible to stand were it not that habitual inhibition asserts itself and enables the extensor and flexor muscles so to coordinate their motions as to produce equilibrium. Then a different environment makes the afferent stimuli unlike what they were before. The traveler who stands for the first time at the top of the Great Pyramid trembles and is scarcely able to hold himself erect, because his eyes fail to find a near horizon upon which to rest, and the optic nerves fail to send messages of assurance for the support of the body.

Dr. Thomson has collected some literature from 19 cases of spasmodic seizures followed by death in tetanic convulsions as the result of the passage of a stomach-tube and the washing out of the stomach. It would seem that the nuclei of nerves lying on the floor of the fourth ventricle are especially sensitive and liable to set up a flow of nervous impulses even on very slight stimulation. Forty-two cases of death under almost similar circumstances are reported as the result of irrigation of the pleural cavity. These convulsive seizures manifestly occur as the result of stimuli which the nervous system is unaccustomed to inhibit. As a consequence of this lack of habit, the afferent impulse sets up an efferent explosion of nervous reflexes in the motor tract that eventually prove fatal. Epilepsy would seem to be just such an event. It is not a spontaneous explosion, but an excitation of motor centers lacking proper inhibition as a consequence of afferent stimuli.

Definition of Epilepsy.—The best definition of epilepsy then would seem to be that it is a disturbance of normal inhibition by some abnormal excitation. This shifts the pathogenesis of epilepsy from the motor side of the nervous system to the sensory side. Some of the causes in the sensory side of the nervous system that may produce epilepsy are well known. Occasionally it may occur as the result of such a pathological condition as sunstroke. When it does, the patient has a tendency to uncomfortable feelings whenever exposed to the sun, and there is a certain supersensitiveness of the nerves of temperature-sense. In these cases it often happens that the administration of the biniodide of mercury, in doses of one 1-25 of a grain, three times a day, produces good results. The use of the biniodide of mercury ointment applied to the mastoid is also effective. These were the recommendations of Dr. Fuller of London, many years ago.

Sensory Origins of Epilepsy.—It is not unusual to find in epileptics certain peripheral sensory nerves, extremely sensitive. Frequent swallowing movements are a trait that has often been noticed in epilepsy. An attempt to examine their throats with the laryngoscopic mirror usually leads to gagging, or even vomiting, as soon as the throat-mirror touches the veil of the palate. Their swallowing movements seem to be the result of this supersensitiveness. Very often epileptics bolt their food. This seems also to be due to the fact that the sensitiveness of the throat tempts them to swallow as some of the cases of so-called idiopathic epilepsy the this region. There seems good reason to think that in some of the cases of so-called idiopathic epilepsy the sensory stimuli that lead up to an attack are due to this sensitiveness of the throat. The condition can be overcome by painting the pharynx with a solution of nitrate of silver of the strength of two grains to the ounce. The use of this solution should not be continued for long, owing to the danger of producing argyria. Dr. Thomson has seen two cases in which the frequent use of such a remedy has led to some darkening of the skin of the face. After a time the pharynx may be painted with a dilute solution of iodine.

The most important remedy for epilepsy is bromine as a bromide. It is agreed by all physiologists that the action of bromides is limited exclusively to the peripheral sensory nervous system. It is by reducing the afferent stimuli that the epileptic types of attack are overcome. This constitutes almost a demonstration of the afferent cause of epilepsy. In the use of a bromide it must be remembered that the complications consequent upon their employment must be avoided if the effect of the drugs is to be obtained. Bromism should be postponed as long as possible. Dr. Thomson has had good success with Dr. H. C. Wood's suggestion to give a certain proportion of antipyrin with ammonium bromide in the treatment of epilepsy. The nervous system gradually becomes accustomed to the influence of antipyrin, and then other coal-tar products should be substituted for it. Chloral in combination with the bromides also adds to their efficiency, but it should never be given in more than 10-grain doses.

Prophylaxis of Epilepsy.—In the treatment of epilepsy reliance should not be placed exclusively on drugs, because this invites failure. The main element of therapeutics is the avoidance of everything that can lead up to the epilepsy. For this purpose the patient's general health must be improved as much as possible. All tendencies to auto-intoxication from the digestive tract should be corrected by the use of a bland and unirritating diet. There is no such thing as epileptiform convulsions in the sense that an attack in an epileptic resembles epilepsy, but is not the malady. The symptoms may be very slight, as in infants, but they are none the less epilepsy. It is important then to take care even of the mildest epileptic symptoms. In order to avoid the absorption of irritants from the intestine, the use of red meat should be forbidden. Many of the carnivorous animals die from epileptic convulsions and are subject to convulsive seizures, while the herbivorous animals are not. All individually indigestible foods should be avoided, no matter how unirritating they may prove for most people. This precaution should be taken especially at the evening meal.

Insufficient Renal Elimination.—Dr. Thomson has seen cases of epilepsy in which undoubtedly the underlying pathological condition was the failure of proper renal elimination. Two of the individuals who came to him for treatment under these circumstances had recently passed life-insurance examinations. One of them was eliminating only 13 grains of urea per day, and the other only 15 in the same time, instead of 24 to 30 grams. The most important element of prophylaxis is undoubtedly an abundance of fresh air, such as can be only obtained by a largely open-air life. The open air has the property of distinctly diminishing all reflex excitability, and epileptics should be taught to live practically out of doors.

Underlying Pathological Condition of Epilepsy.—Dr. B. Sachs, in opening the discussion, said that he does not dispute the fact that afferent stimuli may be causative of epilepsy. They are, however, not sufficient by themselves to be the entire etiology of the affection. All normal individuals have afferent stimuli of more or less intensity, but there are very few epileptics. Hence it is evident that there is an accessory underlying condition in the brain that is responsible for the epilepsy. This pathological condition, by no means always or necessarily, lies in the afferent nervous system. Certain changes in the nervous system make the motor nerves more responsive than before, and the consequence is the nervous explosion that is called epilepsy. Suddenness is a most important symptom of epilepsy. But it would be a mistake to attribute too much importance to it, especially if in so doing the value of the loss of consciousness as the most prominent symptom of epilepsy should be lost sight of. Loss of consciousness may sometimes fail to be present as a symptom of an epileptic seizure, but it is the best characteristic symptom, and when there is question of the differential diagnosis of hysteria or epilepsy it constitutes an extremely valuable, almost pathognomonic sign. Dr. Thomson's paper will prove of great value if it will only teach the important lesson that all possible peripheral nervous irritation must be removed in epileptic patients. It has long been Dr. Sachs's custom to insist very much on the importance of irritative conditions at the periphery in the production of epileptic attacks. This is especially important for all irritative conditions of the nose and throat. In children especially attention must be paid to the gastro-intestinal tract. In mild forms of epilepsy the removal of all irritating conditions will often make the bromides unnecessary and will considerably lessen the amount of this drug that has to be given in any given case, a very noteworthy advantage in the treatment of epilepsy.

Significance of Inhibition.—Dr. S. J. Meltzer said that the word inhibition has been used in many different senses. To speak of epilepsy then as a failure of inhibition may very easily lead to misconceptions. The movement of flexion and extension of the leg requires alternate inhibition of the nerves supplied to the extensor and flexor muscles. Many of the sensory auræ with which epilepsy begins are in their way rather manifestations of inhibition than of excitation. For instance, an appearance of light before the eyes is a stimulus, but, if as is sometimes the case, a black ball is seen, this is an inhibition of the proper function of the optic nerve, whose function is to see light. There is a distinction between exciting and primary cause that must be borne in mind. A match may set off a quantity of high explosives with resultant terrible destruction. The match can scarcely be said to be the cause of the damage done. Some slight sensory irritation may induce an epileptic attack, but the underlying pathological conditions are responsible for its effect. There are two conditions, reflex epilepsy and idiopathic epilepsy, and in the latter no exciting cause can be found.

Suddenness Not All Important.—Dr. Pearce Bailey said that epilepsy has taken on a new aspect since medical observers have come to realize that it is by no means necessarily connected either with convulsions or loss of consciousness. Suddenness is not, however, a pathognomonic symptom of epilepsy. In myotonia congenita, known as Thomsen's disease, a name very nearly resembling that of the reader of the interesting paper of the evening, the onset of an attack is always sudden, Hysterical attacks may occur quite suddenly. On the other hand, epilepsy need by no means necessarily begin suddenly. Dr. Thomson includes the aura in an epileptic attack, and yet patients by means of this symptom may know for hours or even a day beforehand that an attack is coming. Hence suddenness is not so important. A recent investigation carried on at Craig Colony shows that very trying sensory stimuli do not add to the number or severity of epileptic attacks. Sixty patients at Craig Colony were found to be suffering from astigmatism, requiring glasses. The careful record of the number and severity of their attacks for several weeks was made, and then they were supplied with the proper glasses. This relief of sensory disturbance made no difference in the character of the epilepsy. In the treatment of epilepsy drugs are least important. Muscular exercise and outdoor air are the best remedies.

Definition of Epilepsy.—Dr. William P. Spratling, Medical Superintendent of the Craig Colony for Epileptics of Sonyea, N. Y., said that epilepsy is an extremely difficult disease to define. Like insanity, it almost defies definition. If Dr. Spratling were asked to define it he would first insist on this practical impossibility of definition and then suggest that epilepsy is a nervous affection, generally characterized by some impairment or loss of consciousness, coincident with some impairment or loss of the power of motor coordination, with or without convulsions, the paroxysms being generally abrupt in appearance and short and variable in duration. Suddenness is not an invariable symptom of epilepsy. A motor or psychic aura may be present for days before an attack. At the Colony it is not unusual to note some change in the personality of the patient as a premonitory symptom of an epileptic attack. A patient comes with complaints, evidently not very well founded, or for some trivial reason. The disposition is different from what it was before, and the physician recognizes that an attack is impending. The patient is therefore put off for a day or two, the attack comes, and then nothing more is heard of the complaints.

Defect of Brain as Basis.—There is always some defect of the brain as the basis for epilepsy. The brain is an apartment-house, containing many different quarters, and the character of a fit depends on the part of the brain that is affected. Some interesting peculiarities are noticed in this respect. A certain German patient, who talks English very well, always suffers from aphasia after an attack. He invariably recovers his faculty to talk German some time before his English returns to him. Dr. Spratling said that after seven years spent at the Colony his views with regard to the curability of epilepsy are more optimistic than at the beginning. The most important therapeutic measure is diet. After that comes some outdoor employment that gives constant occupation of mind and a sufficient amount of exercise for the body. In this way epilepsy can be educated out of the system. The prognosis depends largely on the mental condition. If the mind is affected then the prognosis is very unfavorable. Epilepsy, however, is absolutely curable in certain cases.

There is no single set of causes for epilepsy, but almost anything that can produce the pathological impression from the central nervous system, especially the brain, may be the basis for attacks.

Abuse of Bromides.—Dr. William Leszynsky said that the unfortunate feature about our present therapeutics of epilepsy is the abuse of the bromides, since for many medical men the recognition of the presence of epilepsy is at once inevitably followed by the thought that bromides must be administered. These depressant drugs are given in such large doses, to the detriment of the general health, that they often do more harm than good, though at first they may control the attacks. Dr. Leszynsky insists first on the regulation of the life and the maintenance of hygienic measures. Outdoor occupation is one of the most important directions that can be given to the patient. After careful regulation of the diet and the outdoor exercise the bromides can very often be dispensed with. Dr. Leszynsky illustrated his remarks by a case in which there had been a series of seven or eight attacks in nine months, and the regulation of the life and the diet, with general directions, had kept the patient from having any further attacks although no drugs were employed at all.

Strychnine with Epilepsy.—Dr. Ralph Parsons described a series of cases in which strychnine before the introduction of the bromide was used for epilepsy with excellent results. It was given in small but tonic doses and insistence was placed upon outdoor air and upon general control of the patients. In children this tonic treatment seemed to do very well and brought better and more lasting results than the depressant bromides do in similar cases now.

Dr. Thomson, in closing the discussion, said that most of those who discussed his paper had mistaken part of his contention with regard to the newer standpoint from which epilepsy should be viewed. He does not consider that any afferent stimulus no matter how excitant may produce epilepsy, but an abnormal afferent stimulant. The peripheral irritability of nerves that may produce central disturbance is very well illustrated by the effect of strychnine in experimental observations. The patient lies perfectly still and quiet until some peripheral stimulus sets up a spasmodic seizure. A breath of air, a flash of light, the touch of a feather may bring on a convulsion. So when the central nervous system is in an excitable condition a slight afferent stimulus may produce an explosive convulsion. No one has ever shown that an efferent action of the motor nervous system can be spontaneous. Such an incident is unknown in physiology. The afferent stimulus need bear no definite ratio to the result. It may be small as in a sneeze, and yet the motor affection in response may be wide. The suddenness of epilepsy refers to any of its symptoms. The epileptic aura is not a premonition, but the epileptic attack itself. Patients do not know epilepsy days before, but they feel the toxemia.

BOOK REVIEWS.

Selected Essays and Addresses by Sir James Paget. Edited by Stephen Paget, F.R.C.S. Longmans, Green and Co., London and New York.

Modern medical literature is so full of exact science and the detail of minute observation, that it is refreshing occasionally to climb to a height where detail is lost in perspective. The picture of Humboldt seated on an Alpine peak with a note-book in his hand, jotting down observations on the lesser Alps around him, is symbolic of the mental attitude of Sir James Paget in this book of charming and varied essays. They are literary and philosophical rather than didactic; broad and suggestive, rather than exhaustive. They do the reader the honor to infer that whether he is a student, a practising physician, or a pure scientist, he has a grasp of his subject that makes it unnecessary to review the steps by which the author has reached his conclusions.

The essays are singularly clear and forceful in their English, and so admirably constructed that the central idea of each is never lost in the facts that support it. Incidentally, but by no means accidentally, some of the most interesting medical questions are discussed in the essays; questions which, being in the minds of the profession as well as the laity, Sir James Paget was asked to answer in the form of an address before some society, or in an oration on a special occasion.

A glance at a few of the titles will show that the range of subjects was varied: "What Becomes of Medical Students?" "Nervous Mimicry;" "Theology and Science;" "The Contrast of Temperance with Abstinence;" "National Health;" "Use of the Will for Health." The more purely clinical essays, taken from studies of old case-books, and certain reports published in hospital transactions, show the master-touch of experience in divining the true nature of disorders. In these, intsead of dispensing mere facts and averages, he hands down the ripe judgment of years to a younger generation. It is the accumulated good sense of a lifetime, not the mere latest word on the subject, that he gives in these essays.

The philosophical point of view from which he treats even the simplest proposition may be shown by a few excerpts. In his Hunterian Oration, which is an excellent and stimulating bit of biographical tribute, he says: "I believe that in contemplation such as this Hunter enjoyed a calm, pure happiness. So Reynolds, his friend, seems to tell of him. In that masterpiece of portraiture, which teaches like a chapter of biography, Hunter is not shown as the busy anatomist or experimenter pursuing objective facts; the chief records of his work are in the background; he is at rest and looking out, but as one who is looking far beyond and away from things visible into a world of truth and law which can only be visibly discerned. The clear vision of that world was his reward. It may be the reward of all who will live the scientific life with the same devotion and reward."

In his "Elemental Pathology," he correlates many facts of vegetable pathology with human decay or disease, illustrating truths and giving shrewd guesses at the still undiscovered relations of some diseases to the body, that afford more food for reflection than many a bacteriological report. For instance, he says: "The changes of color in leaves are not mere chemical changes ensuing a dead past, they are vital changes in the same sense as those which we see ourselves in the advance of old age." Summing up the whole history of the coloring, withering and falling of leaves, he observes: "It would be hard to find a more admirable instance of processes adjacent, concurrent to a common end, yet independent. We have many of the kind in our pathology as of vital processes tending to one end, but not guided from one center, concurrent, but not concatenate; as independent as are the works of the several bees that make one honeycomb." His analogies in repair tissue, in gall-growths and the possible relations between galls and our specific diseases, such as eruptive fevers, syphilis, cancer, gout and others, contain hints of truth which, published 20 years ago, have in some cases preluded the facts, and in others are still fraught with suggestion.

In his essay on "The Contrast of Temperance with Abstinence," he writes from a broad and general survey of public health and of heredity, and pronounces in favor of the moderate use of stimulants. His address on "National Health and National Work" contains pages sprinkled with figures; but his statistics all point a moral, and his review of the relation between national health and work is extremely suggestive.

To the practising physician especially this book will be interesting, for it is distinctly the work of a man who knew his patients well, but who derived from each a philosophical appreciation of his case, in addition to his observations. Moreover, it is a book that charms, as does an intimate photograph, with the simple personal reality of this famous London physician.

The Artificial Feeding of Infants, Including a Critical Review of the Recent Literature of the Subject. By Charles F. Judson, M.D., Physician to the Medical Dispensary of the Children's Hospital, and J. Claxton Gittings, M.D., Assistant Physician to the Medical Dispensary of the Children's Hospital. J. B. Lippincott Company, Philadelphia.

There have been so many semipopular works on the subject of infant-feeding, works that are the familiar word of the child's specialist to the mother, the medical student or the local practising physician, that it is almost startling to glance through the pages of this work by Drs. Judson and Gittings. Science fairly radiates from its pages. Here are chemical formulæ, percentages, tables, increase of weight in grams, constituents of the infant body in terms of salts, and descriptions of digestive processes in the language of enzyme.

It is also startling to see the well-known theories of well-known authorities set side by side and covering the range of opinion in Europe, England and America, and to note how completely some of them contradict each other.

In infant-feeding, medical science has run a little to fads. One can trace the rise and fall of theories based upon new discovery, such as insistence upon the sterilization of milk, following in the track of bacteriology, and succumbing to the teachings of the chemistry of digestion. The value of this work lies not in any single new teaching that it propounds, but in its broad outlook upon the subject. It is a very able exposition of the principles and methods of artificial feeding in practice to-day. It is practically a résumé of all the authoritative experimental work that has been done in the last few years in Europe and America. It is no handbook, although a very handy volume. It is an exhaustive treatise upon the subject, implying a knowledge of modern chemistry and physiology which demands careful reading of the general practitioner. Yet its outcome and conclusions are so practical and its logic so clear that it will serve as a solid basis of study for every physician who has much work with infants.

The tone of the book is that of laboratories and hospitals, but it is fresh and new because it is the collected experience of the most recent work, which has not yet emerged from reports and pamphlets into textbooks. The arrangement of matter is clear and concise. In spite of necessary repetition the facts are well ordered; and each page carries with it a convincing weight of authority.

The chapter on digestion is excellent, and must be carefully read and itself digested, in order to appreciate the following chapter, which is a complete work, on Modern Methods of Infant-Feeding.

The closing chapters of the book sound more familiar, as they treat the different well-known principles of infant-feeding and give directions for home modification of milk, with practical rules for feeding; but even these do not bear the imprint of any man's pet theory. They are rather the transmutation of cold science into available warm bottles for hungry infants.

It is commendable that so much material has been put in such a compact and well-printed form. The book is an octavo with good margins and large print, yet it contains everything of value that has been said in the last few years on the feeding of infants.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, Other than Drug-giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume IX. Hydrotherapy, Thermotherapy, Heliotherapy and Phototherapy by Dr. Wilhelm Winternitz, Professor of Clinical Medicine in the University of Vienna, Director of the General Polyclinic of Vienna, Assisted by Dr. Alois Strasser and Dr. B. Buxbaum; and Balneology and Crounotherapy by Dr. E. Heinrich Kisch, Professor in the University of Prague, Physician at Marienbad Spa. P. Blakiston's Sons & Co., Philadelphia.

Liberal as would seem to be the supply of material thus stated in the larger print of the title of this book, there are still other chapters that are of special interest to American practitioners. Dr. Guy Hinsdale contributes an article on American Springs. Dr. A. C. Peale, an assistant in the National Museum, Washington, D. C., has a series of special chapters on mineral waters and their distribution in the United States. His experience while in charge of the mineral-water statistics of the United States Geological Survey enables him to make this department especially valuable and authoritative. Dr. J. K. Kellogg of Battle Creek, Mich., contributes an article on the practice of phototherapy and thermotherapy in this country; while Dr. Harvey Cushing of the Johns Hopkins Hospital, Baltimore, has an article on saline irrigation and infusion, and there is a 30-page appendix by the editor which contains some very practical clinical applications of various therapeutic methods that previous contributors have failed to mention.

The series of books published in the system of physiological therapeutics are mainly written by American contributors. The editor's selection of cooperators in the work has been deservedly commended by many reviewers. The present volume is mainly written by foreign authorities. In this, however, the editor's judgment has not been at fault, and his selection of Dr. Winternitz must commend itself to all those who understand how much the distinguished Vienna specialist has helped to develop the great subject of hydrotherapeutics.

The special merits of the "System of Physiologic Therapeutics" is that directions for the application of remedial measures are so definitely given. In the present volume this quality is especially noticeable. While general principles of treatment are thoroughly discussed, the specific details as to methods of treatment for various forms of disease are given very completely. Winternitz describes very fully his own methods, without undue neglect of hydropathic applications that have been found useful to others.

The chapters on the mineral waters of the United States are especially satisfactory. There is unfortunately too much ignorance in this country of the great mineral-water resources at our command. Most practitioners know more about the mineral waters of Europe than those of the United States, and yet we are by no means lacking in curative mineral waters to meet practically any indication.

The chapters on heat and light therapy are excellent in their practical suggestion as to the methods by which these agents can be used in ordinary practice.

The whole works reflects credit, not only on the editor and his select staff of contributors, but on American medicine. The remedial measures other than drugs have never before been discussed at once with so much perfection of knowledge and such thorough realization of the limitations of the subject, yet so little enthusiastic exaltation of the partisan specialist. The work can not fail to do great good, and it must bring the profession to realize what excellent therapeutic measures are being left too much in the hands of the charlatan.

DISINFECTION AND DISINFECTANTS. A Practical Guide for Sanitarians, Health and Quarantine Officers. By M. J. ROSENAU, M.D., Director of the Hygienic Laboratory and Passed Assistant Surgeon U. S. Public Health and Marine Hospital Service, Washington, D. C. P. Blakiston's Son & Co., Philadelphia.

DR. ROSENAU'S experience as an official of the Marine Hospital service has given him ample opportunities to study practically the problems with which he deals in this manual. He has an excellent practical account of the use of such agents as sunlight, dry heat, boiling and steam for the general purposes of disinfection, and of such gaseous disinfectants as formaldehyd-gas, sulphur dioxide, hydrocyanic acid, chlorine, oxygen and ozone. There is besides a discussion of the principal chemical disinfectants and of the various insecticides to be used for the prevention of the spread of insect-borne diseases. The last chapter contains directions for disinfection in the various specific communicable diseases, from typhoid fever, cholera and smallpox through anthrax and tetanus.

The book is of eminently practical character. It is well put together and without waste of words. Practical points not easy to be found elsewhere occur on nearly every page. Perhaps there is an embarrassment of riches, too many suggestions from which the physician is supposed to make his choice, instead of insistence on some special method or chosen substance for a given purpose. It is suggestively illustrated.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly Under the General Editorial Charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. NERVOUS AND MENTAL DISEASES, Edited by W. L. BAUN, M.D., and HUGH T. PATRICK, M.D. September, 1902. The Year Book Publishers, Chicago.

THE section on Neurology in this volume contains an excellent review of the more recent developments in the symptomatology of nervous diseases. The significance of astereognosis—that is, the failure to be able to recognize objects by touching them when the eyes are closed—is well brought out. In numerous cases on record, with anesthesia resulting from a lesion in Rolandic area it appeared that the one constant disorder was that of the stereognostic sense. It seems a reasonable supposition therefore that the Rolandic region contains at least the area representing the principal aggregation of cutaneous and muscular memories whose correlated actions acquaint us with the various qualities of external objects. Other symptoms such as the Babinsli reflex, the Achilles jerk, the scapulohumeral reflex and Kernig's sign, as well as the anterior tibial sign, are suggestively discussed. In mental diseases there is an excellent review of recent attempts at a better classification of these ailments. The whole book is a very practical little manual of up-to-date ideas in the diagnosis and treatment of difficult affections.

WOOLSEY'S SURGICAL ANATOMY. Applied Surgical Anatomy Regionally Presented, for the use of students and practitioners of medicine. By GEO. WOOLSEY, A.B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College; Surgeon to Bellevue Hospital, etc. Lea Brothers & Co., New York and Philadelphia.

THE principle of modern pedagogy which seeks to replace the necessarily more or less evanescent impressions received from large groups of isolated facts acquired through the mechanical acts of brute memory, by substituting the more permanent results of the association of ideas has never been more advantageously applied than in the presentation of the study of anatomy. Of late years numerous works have appeared, both in our own and in foreign languages whose object it has been to dispose the enormous amount of material belonging to this subject in such fashion as to give prominence to the practical bearing of each important point and render evident its use in the every-day work of diagnosis and treatment. Some of them have been more and some less successful in this attempt, but it requires no lengthy examination of the present volume to assure the reader of its preeminence over its predecessors. For lucidity of presentation, attractiveness of treatment and, important above all, accuracy of statement, it has no rivals, and its author will no doubt often be called blessed by students of all degrees of advancement in the art for whom he has facilitated the acquisition of new information or recalled in pleasing manner that long forgotten.

The system of the work is purely regional, and each section of the body is considered first as a whole from the standpoint of surface form and topography, with a careful enumeration of surgical landmarks and their significance, and then its detailed structure is described with continual excursions into the domain of diagnosis and therapeutics, illuminated by frequent examples of actual cases, and the whole handled with a light but sure touch, utterly opposed to the frigid style, or rather lack of it, characteristic of anatomical literature. Since through the limitations of its subject a work of this nature perforce excels through its manner rather than its matter, excerpts are hardly necessary in discussing it. On the other hand, in the present instance criticism also is disarmed and the reviewer finds but few points of vantage for his blue pencil. The captious might perhaps consider that to the description of the manner of introducing the aural speculum in the adult, on p. 48, should be appended the statement that in infants the auricle must be pulled outward and *down;* that the discussion of the axilla (p. 169) might have been made a little more extended as regards its dissection in amputation of the breast; that usage has made the expression "cystoscopy of the bladder" (p. 401) tautological; but these are all very minor matters that are lost in the multitude of excellencies to be found on every page.

A special word should be accorded to the illustrations, which are all fresh and unhackneyed, and present instructive relationships that no doubt will often seem novel to those who think the last word has been said in regard to topographical anatomy. The press and lithographic work are also far above the usual order, and the volume is one that it is a pleasure to commend to the attention of surgeon, physician and to the student of medicine.

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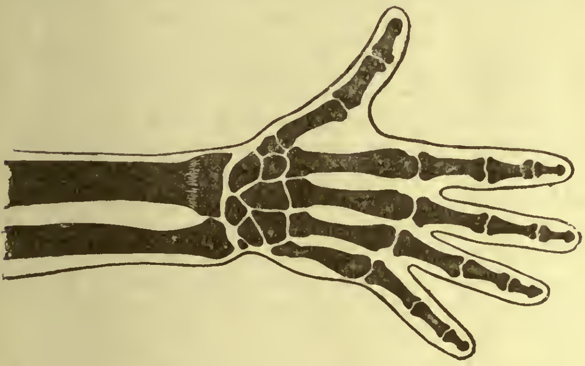
ORIGINAL ARTICLES.

SHORTENING OF THE RADIUS IN COLLES' FRACTURE.*

BY GEORGE RYERSON FOWLER, M.D.,
OF NEW YORK.

THE causes of impacted fracture at the lower end of the radius are those of impacted fracture in general; namely, the application of the vulnerating force in the direction of the long axis of the bone. If the impact is such as to pass in a practically undeviating line through the center of the cancellous mass forming the lower end of the bone, and the force is distributed evenly, the vulneration takes place somewhere between the point where the impact is first received and the more solid and resisting shaft of the bone.



It is now generally admitted that a fall upon the palmar surface of the dorsally flexed (extended) hand is the common cause of Colles' fracture. The belief that the fracture was always caused by avulsion, the strong carporadial ligament offering greater resistance than its bony attachments, only took into account those cases in which the metacarpus and phalanges acted as a lever during forced dorsal flexure (extension), with the carporadial ligament as an extension of this lever, and the base of the radius as a fulcrum. Under these circumstances the force is applied through the medium of the lever and thence, through the extension of the latter, to the point of least resistance in the line of the applied force; namely, a point close to the anterior surface of the base of the radius. There is no classical Colles' fracture. An injury to the lower end of the radius may consist of a tearing off of a slight spicula of bone by the strong carporadial ligament; an avulsion of the entire articular surface by the same mechanism; a fracture with marked displacement and resulting deformity anywhere between the articular surface and the shaft; or lastly an impacted fracture, the impaction taking place in such close coincidence with the normal line of the bone that there is practically no deformity of the contour of the latter, the sole displacement being the driving of one fragrant into the substance of the other and resulting shortening.

But to say that there is no deformity of the wrist itself in cases of impacted fracture of the lower end of the radius would be far from true. There is a deformity of the wrist, and this is quite characteristic of the shortening of the radius invariably present under these circumstances. This deformity relates more particularly to the lower end of the ulna, and consists in a diastasis of the radio-ulnar articulation, with a relative downward and positive forward displacement of that portion of the bone. The downward displacement is only relative, since through loss of support of the base of the radius and the action of the muscular structures the hand approximates more closely to the forearm. As this occurs the ulna is forced to accommodate itself to the new relations of the hand to the lower end of the bones of the forearm. The radio-ulnar ligaments necessarily become either stretched or ruptured in the ascent of the impacted lower extremity of the radius. With the rupture of the posterior radio-ulnar ligament, and in some instances the internal lateral ligament as well, the ulna is no longer supported in its position, inasmuch as the posterior ligament has its superior attachment to the radius alone, and hence the head of the former is forced forward by the impingement of the corresponding portion of the carpus. With the shortening of the radius there also occurs in addition to the anterior displacement of the head of the ulna a more or less pronounced radial flexion (abduction) of the hand upon the forearm. Should both the anterior and posterior radiocarpal ligaments give way, as not infrequently happens, inward displacement of the ulna and consequent widening of the wrist follow.

This upward displacement of the lower fragment, whether from impaction or from displacement in one or another of the usual directions, leads to shortening of the radius and consequent elevation of the radial styloid. This is such a constant feature of Colles' fracture in general that it has come to be looked upon as a diagnostic feature of the injury, inasmuch as the normal half-inch difference in the level of the two processes is destroyed. (Fig.)

Interference with the function of the hand varies considerably in these cases, but there is always a bar to complete palmar flexion of the wrist. This is sometimes sufficiently pronounced to compel the patient to keep the hand in the straight position, or midway between dorsal and palmar flexion (extension and flexion), or to permit slight dorsal flexion only.

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* Read by title at the Twenty-third Annual Meeting of the American Surgical Association held at Albany, N. Y., June 3, 4 and 5, 1902.

Pain is often a prominent symptom in this class of cases. It is not, as a rule, confined to the ulnar side of the hand, but is distributed over the latter, and to the neighborhood of the wrist as well. Its presence and distribution are due to pressure upon the cutaneous branch of the ulnar nerve which communicates with branches of the median nerve. Pain in the entire arm and forearm may result from pressure upon the first branch of the cutaneous, which pierces the deep fascia near the wrist and gives off a branch almost directly opposite the displaced head of the ulna, and communicates with the internal cutaneous. This symptom of pain in the arm is relatively infrequent, owing to the fact that this branch of the cutaneous branch of the ulnar is sometimes absent.

If, in the treatment of Colles' fracture, sufficient force can be brought to bear to overcome the deformity at once, and pains be taken to maintain the normal position of the ulna by a sufficiently hard and properly applied pad placed on the palmar side of the head of the ulnar; and if, in addition, early massage and movements of the fingers, both active and passive, be employed, the very best results can be obtained in the great majority of cases. In the application of this pad it is my habit to use a tightly rolled portion of an ordinary muslin roller bandage. The pad is about the diameter and length of the little finger. To prevent it from slipping it is covered with a piece of adhesive plaster folded in such a manner before applying that it presents an adhesive surface to the skin as well as to the roll. An anesthetic should always be employed in the reduction, and the normal length of the radius restored when possible. The ulna is now forced into place and the roll placed upon the palmar surface to retain the reduction. This is held in place by several turns of adhesive plaster, the width of which corresponds to the length of the roll. The edges of the adhesive plaster are nicked to prevent these from sinking into the skin should swelling occur subsequently. The arm is placed in a sling with the hand dependent, so as to maintain the latter in a position of ulnar flexion (abduction).

The dressing above described is essentially that of Moore of Rochester. Besides meeting all the indications, it presents the advantage of being always available and of permitting movements, both active and passive, as well as the use of early massage.

In spite of every effort, however, in a certain proportion of cases it will be found impossible to effect complete reduction either of the fracture itself or of the displaced ulna. Upon removal of the dressings the ulna will fall forward almost, if not quite, to the position which it occupied before its reduction. This usually occurs at once. If it is delayed this delay is due to incomplete repair of the posterior radio-ulnar ligament. Such cases, however, are rare. In the great majority of cases the essential feature of the displacement of the ulna is the shortening of the radius.

In the treatment of cases in which the deformity resulting from failure to reduce the displaced ulna is of sufficient importance, whether from the standpoint of impairment of function, the presence of pain, or for reasons pertaining to the presence of the deformity pure and simple, for several years past I have practised removal of the head of the ulnar through an incision made along its inner border. The operation is performed subperiosteally, the section of the bone being made by the Gigli wire-saw. The amount of bone to be removed will depend upon the amount of impaction of the fragments of the radius, and consequent shortening of the latter.

In cases in which the alignment of the radius is but slightly disturbed, the displacement of the lower fragment being entirely in an upward direction, and this at the expense of its cancellous tissue into which the upper fragment is crushed, this operation will be found to fulfil all the indications of improvement of function, relief of pain, and correction of deformity. In cases, however, in which the impaction is slight, the shortening being due to either an angular deformity or a bowing of the radius at the point of fracture, it neither will nor can be expected to serve the same useful purpose. Here, nothing short of a refracture, with, perhaps, cuneiform osteotomy, will completely serve the purpose. There are two symptoms, however, which excision of the head of the ulna will relieve, when these are due to malposition of the ulna, even though the latter result from failure to reduce an angular displacement at the site of the fracture. I refer to the interference with palmar flexion of the wrist, and the presence of pain. The excision of the head of the ulna will remove the obstacle in the case of the former, as well as relieve the pressure upon nerve-structures in the case of the latter. Furthermore, in those cases in which the shortening of the radius is sufficient to produce marked radial flexion (abduction) of the hand, the removal of the head of the ulna, by relieving this distortion, will permit greater freedom of action of the flexors of the fingers.

REPORT OF NINETY CASES OF TYPHOID FEVER IN INFANTS AND CHILDREN.*

BY ISAAC A. ABT, M.D.,

OF CHICAGO.

This report consists of a study of 90 cases of typhoid fever, conducted for the most part in the children's ward of the Michael Reese Hospital. A few of the cases occurred in my private practice. The report covers a period of three years.

The children were largely of Russian parentage. A history of conditions previous to the onset and prior to admission to the hospital was not always obtainable, a source of error in these histories being frequently the difficulty in obtaining accurate data from parents.

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* Read at the meeting of the Illinois State Medical Society, May, 1902.

During the three years in which the cases were collected there was no particular epidemic of the disease. In the winter and early spring even single cases were rare; but during the month of June a few cases came in; the number increased in July, and by far the largest number were admitted during the months of August and September. From this time on a few cases occurred until December 1.

Age of Occurrence.—Even in recent times it has been maintained that typhoid fever in children under two years of age was of extremely uncommon occurrence. De Grassicourt[1] in 276 cases of typhoid found only three cases in children as young as two years. Vogel[2] collected 1,017 cases, only four of which occurred in the first year of life. Morse[3], who has rendered great service by his classical report on this subject, found no case in a child as young as two years. Holt[4] has never seen a case in a child of two years of age. It must be remembered, however, that the clinical as well as the postmortem diagnosis of typhoid fever in very young children has often in the past been impossible. The Widal reaction has been of great service in enabling us to diagnose cases which previously passed for another disease, or were not diagnosed at all.

It can hardly be longer doubted that fetal typhoid can occur. Concerning this point Morse[3] summarizes as follows: "The typhoid bacillus probably enters directly into the circulation, causing a form of general septicemia; therefore the intestinal lesions in fetal typhoid are absent. The fetus usually dies in utero, or shortly after birth. The fetus may be born alive; if so, it is feeble, lives for a short time. Death usually occurs in a few days without definite symptoms. The fetus is not infected in every case."

In my series the youngest child was eight months old; one was seventeen months old; one, twenty-one months; five were two years old; five, four years; seven, five years; five, six years; six, seven years; five, eight years; seven, nine years; nine, ten years; seven, eleven years; the remainder were between twelve and fourteen years of age.

The eight-month-old patient was a male child. The mother and a brother two years old were in the hospital at the same time, ill with typhoid. The disease in this child of eight months was ushered in by fever and vomiting. Roseola over abdomen and buttocks was distinctly present a few days after admission. The spleen was enlarged; the temperature constantly high; the abdomen tympanitic. Diagnosis was made by the course of the disease, and positively confirmed by the Widal reaction. One other case, that of a child twenty-one months old, was fatal. The autopsy showed the usual abdominal and intestinal findings of typhoid in young children. The solitary and agminated follicles were swollen without ulceration. The mesenteric glands and spleen were enlarged. This was the case in which multiple gangrene occurred. It has previously been made the subject of a special report.[5]

Prodromata and Mode of Onset.—The majority of the children were admitted after they had been ill a number of days, and for this reason accurate data as to prodromata and mode of onset were not obtainable. In the older children prodromal symptoms were usually present. In smaller children the onset was frequently abrupt. A sudden rise of temperature was recorded in all the cases of young children. Vomiting at the very beginning occurred 19 times in our series. Convulsions are said to occur rarely. In one of our cases the onset was thus marked. Diarrhea was present 10 times. Constipation was more frequent, occurring 16 times.

Headache was oftener complained of than any other single symptom except fever. At the beginning of the disease 42 patients complained of this symptom. Chill or chilliness was not infrequently recorded at the onset of the disease.

Epistaxis, which is said to be less frequent in children than in adults, occurred four times during the early days of the disease.

Delirium was once present. Pains in the abdomen and muscular pain were each present 13 times. Well-known symptoms, such as anorexia, prostration, malaise, nausea, insomnia and pharyngitis were frequently present during the prodromal and initial period of the disease.

Pulse.—The observation of the pulse confirmed the dictum of Gerhardt.[6] The younger children showed a rapid pulse, while older children followed the type of adults and had a slow pulse. In 15 of our cases, irregularity and intermittence of the pulse was noted for an uninterrupted period. In 42 cases it was above 120 during the febrile period. Excluding cases of collapse and one of perforation, the pulse never exceeded 150 per minute in any case. In one case a relative brachycardia was present during the febrile period, the pulse varying from 50 to 70 per minute. In 11 cases it varied between 88 and 100 per minute.

Fever.—It was a common observation that the temperature of the patient immediately after admission was a maximal one for that day, the fever frequently falling one or two degrees after the patient had been placed in bed. This reduction was partly to be explained by the bath which the patient received upon admission. The high initial temperature is due to the excitement and fatigue incident to the journey to the hospital, as well as to the unsuited environment and mismanagement of diet and hygiene previous to admission.

The study of the temperature records in our cases teaches us nothing new. The course of the fever was in almost every case of the remittent type. In not a few cases the disease was ushered in by a high temperature, 104° or 105° F. being not uncommon. In none of the cases did the temperature fall by crisis; it fell gradually in every case. The typical course of the fever was changed by complications such as pneumonia, abscesses, etc. We were convinced that the temperature was affected by emotional excitement. Nearly all of the children showed a rise of temperature on visiting days, when parents and friends were admitted to the wards. This, however, had no permanent effect on the fever curve.

Relapse.—In nine cases, or 10 per cent., relapse occurred. Most of the relapses were mild and short attacks, although a few were severe and exceeded the primary attack in intensity and duration.

I have now under my care in the hospital a little patient who is suffering a second relapse; *i.e.,* a third attack of the disease. The last relapse was preceded by 20 days of normal temperature and apparently complete recovery. During the relapse period the spleen again became enlarged and the roseola usually reappeared as in the primary attack. Of the children among my cases who suffered relapse none died.

Nervous System.—As has already been noted, the onset of the disease is frequently characterized by the occurrence of nervous symptoms. One of the commonest symptoms is headache. At this period convulsions are rare. Headache was complained of by 50 patients. With three it continued throughout the febrile period. In a large number of the milder cases apathy was manifest. These patients slept a great deal, but responded to questions. In older children delirium was commonly observed. This condition was very marked in 13 cases.

One little fellow, nine years old, who had been ill with a severe attack about five weeks all told, and of whom the parents spoke as having been bright previous to this illness, showed unmistakable signs of dementia after the appearance of the fever. He laughed or giggled in an idiotic way most of the time, and insisted on lying in bed uncovered and exposed. He took a fiendish delight in soiling the bed-clothes almost as fast as the nurses could change them, and masturbated unabashed in full sight of the nurses, internes and other patients.

Among the younger children, those under the fourth year manifested their nervous state by great restlessness and almost incessant crying. In two of the severe cases marked and persistent stupor was observed. In the severe types of the disease tremor of the extremities and tongue was commonly noticed. In two cases tremor of the tongue was persistently present. During the height of the fever, or during the period of defervescence and early convalescence, it was a common observation that the knee-jerk, as well as the abdominal and cremasteric reflexes, was increased. Ankle-clonus was frequently obtained during the same period. Meningeal symptoms were present in two cases. The histories of these cases are as follows:

P. L., aged three years, was taken suddenly ill with high fever. The temperature rose to 104° F., and remained more or less constant in character. He complained of excruciating headache, and vomited frequently. He very soon passed into a comatose condition; there was extreme rigidity of the neck; continued high temperature, somewhat irregular pulse; the pupils were regular, and there was slight deviation of the eyes. The reflexes were increased, and ankle-clonus was present. The Kernig sign was marked. The Widal test was made on the second day of the disease and submitted to the municipal laboratory, whence a positive reaction on the third day was reported. The meningeal symptoms persisted unchanged. On this day Dr. Frank Billings saw the case in consultation with me. He suggested that another Widal reaction be made by the municipal laboratory. The report of this reaction was again positive. Dr. Billings again saw the case with me on the fifth day, and at this time the meningeal symptoms had entirely disappeared. The case presented all the characteristics of a typical typhoid. The disease ran an uneventful course from this time on, and the patient made an excellent recovery.

July 21, 1901. M. F., aged nine years. Born in Chicago of Russian parentage. Onset 10 days before entering hospital, marked by severe headache and violent vomiting. Headache gradually increased in severity and at the end of three days child was delirious and very irritable and restless. About this time the parents noticed rigidity of the limbs and neck. Child has some diarrhea. Past illnesses: No history. Family history: Parents and other members of the family well. No hereditary nervous or mental conditions known to exist. Environment: Lives under very unhygienic conditions; poor water, poor milk-supply and irregular food. Many cases of typhoid among neighbors. General appearance: Fairly well nourished boy, with appearance of extreme illness. Head: Long, peculiarly shaped. Pupils widely dilated; react to light. Mouth dry and brown. Tongue covered with brown fur and furrowed. Teeth bad. Throat: Dry and red. Considerable rigidity of neck. Thorax: Fair general development. Respirations shallow and somewhat irregular. Lungs: Negative, except harsh respiratory murmur and a few scattered, moist râles. Heart: Outline normal; apex fourth intercostal space, one cm. inside mammary line. Tone weak; soft systolic murmur over apex. Second pulmonary not loud. Pulse: Good quality, about 100. Not dicrotic. Abdomen: Spleen enlarged, sharp, hard edge, easily palpable under ribs. Liver slightly enlarged. Extremities negative. Genitalia negative. Nervous system: Marked acute delirium, maniacal in character. Muscles of extremities and neck rigid, and reflexes greatly exaggerated. Ankle-clonus very marked. Skin: Abundant crop of rose-spots; tache cérébrale easily elicited. Glands slightly enlarged. Urine: Trace of albumin and a few hyalin casts. Diazo reaction positive. Widal reaction positive. Blood-count: Whites, 3,000; reds, 2,800,000. The eye-grounds were examined and found to be negative. Lumbar puncture: Clear fluid, nothing in smears or cultures. No result from injection into animals. When the patient had been in the hospital one week the meningeal symptoms disappeared. The case ran an uneventful typhoid course from this time on. His temperature became normal on the eighteenth day after admission and remained so from that time on. After a stay of 37 days in the hospital he was discharged fully recovered.

Tongue.—The tongue is described with dorsum white and tip and edges red in 36 cases; as covered with a dry, brownish fur in six cases, and as intensely red in one case. The white or grayish-white tongue with red border and tip is regarded as most characteristic for typhoid, though it is by no means always present. The appearance of the tongue is not always the same, but may change from day to day.

Stomatitis.—Stomatitis was observed in four cases, and gingivitis alone in one case. Infection of the mouth occurred in spite of the most scrupulous care. No symptoms were observed other than a local discomfort in the mouth, though the food was not so readily taken and an increased flow of saliva was observed.

Herpes Labialis.—Herpes labialis occurred in four cases. This condition has been thought to be very infrequent, although its occurrence is confirmed by numerous reports in recent literature.

Epistaxis occurred 16 times. In two cases there was excessive bleeding. In three cases it occurred during the prodromal period; in one, daily during the first week of the disease; in another it preceded by a day the appearance of the relapse. In one case it was severe and persistent and caused great exhaustion.

Intestinal Symptoms.—As has already been stated, constipation was frequent during the first days of the disease. Constipation occurred during the course of the disease in 36 cases, and daily enemata were necessary to unload the bowels. In seven cases, there was diarrhea during the first week, and frequently constipation existed throughout the remaining course of the disease. In 28 cases diarrhea occurred; in two it was slight; in three the stools were offensive, and in two it was severe. In 10 cases the bowels moved once or twice daily without assistance. The stools were not characteristic for typhoid. In the younger children the stools showed undigested milk-particles, were fluid, and contained a considerable quantity of mucus. Fecal impaction occurred in two cases, and in each during the period of convalescence, before the patient had been fed on solid food. In both these cases slight temperature occurred at the time, associated with tympany and a feeling of fulness and distress in the rectum. These cases were relieved by the manual extraction of the hardened and tenacious fecal masses.

Hemorrhage.—Intestinal hemorrhage occurred in five cases. In two cases it was slight, and in one it was moderately severe, occurring but once. In one case two distinct attacks of hemorrhage occurred. Hemorrhage is not so frequent in children as in adults. It occurs most frequently at the end of the second week. The ages of the patients suffering from hemorrhage ranged as follows: Six years old, eighth day of relapse; ten years old, eleventh day of disease; twelve years old, seventh day of disease; ten years old, sixth day of disease; eleven years old, eighth day of disease. Two were girls and three boys.

Tympany was present in 55 cases, though it was rarely the severe type that is found in adults. Perforation occurred in one case. The history of the case is of great interest and is reported in full:

M. S., aged ten years, of Russian parentage, entered the hospital after an illness of three days, complaining of headache, malaise, anorexia and diarrhea. The eyes were bright and face flushed; tongue heavily coated and some hyperemia in the throat. The spleen was palpable two fingers below the costal arch.

On entrance the temperature was 102.8° F., pulse 128, and respiration 40. Temperature ranged between 98° and 104.2° F., with the morning remission and evening rise of one or two degrees, accompanied by a pulse varying between 84 and 130. With gradual decline, the temperature was normal on the sixteenth day after admission, and remained so for three days. In 27 hours it again rose to 103.8° F., and continued with the usual morning remission, accompanied by a pulse ranging from 100 to 160. On the thirty-third day after the relapse and on the fifty-fourth day after entering the hospital, at about midnight the patient complained of severe abdominal pain and vomited some curdled milk. The temperature during the previous day was about 102.4° F., at 9 P.M. it was about 102.6° F., and at 12 was 101° F., with a pulse of 136 and respiration 32. At 3 A.M. the temperature was 101° F., with a pulse of 180 and respiration 64. The patient was restless and presented the peculiar facies. The skin was cold and clammy. The abdomen was tympanitic and very tender. The radial pulse was almost imperceptible. At 5 A.M. the pulse was 160 and the respiration 48; at 6 A.M., temperature 104.8° F., pulse 176, respiration 44. At 8.30 A.M. the patient was taken to the operating-room for operation. Dr. E. Wyllys Andrews, the attending surgeon to the hospital, who was on duty, was summoned. A perforation in the small intestine, pencil-point in size, was found after opening the abdomen. The perforation occurred in the middle of an excavated area which was about the size of a five-cent piece. There was abundant evidence of beginning fibrinous plastic peritonitis in the neighboring coils of intestine. The ulcer was inverted and sewed, a Lembert suture being used. The peritoneal cavity was flushed with saline solution. The child showed considerable shock during the operation, and toward the end was almost pulseless. The abdominal wound was closed with silkworm gut and sealed with collodion. After returning the child to her bed active methods of stimulation were employed. A saline infusion was given subcutaneously and hypodermics of strychnine and digitalin were also administered. At the time the patient was returned to her bed the pulse was 152. The highest pulse after the operation was 160, and respiration not above 48. The temperature fell rapidly from 103° F. at noon to 97° F. at midnight. It did not again rise above 100.2° F. until the eighteenth day after operation, when for several days she had evening temperature of 102° F., due to the development of abscesses on the extremities. The patient finally left the hospital on the ninety-fifth day after admission in excellent condition, having gained in weight, and being discharged as fully recovered.

The Widal reactions in this case were positive; the urinary findings were negative except for numbers of leucocytes and a slight albuminous reaction with Tanret's test. No casts were found.

Liver.—The liver was carefully examined in all of our cases. In 25 it was somewhat enlarged—in one case was markedly so. There was a condition of catarrhal cholangitis in one case that came to autopsy. More attention has recently been paid to the study of the liver and gall-bladder in typhoid fever than hitherto. The catarrhal form of cholangitis, such as occurred in our case, has received but little mention. Curschmann,[7] writing on typhoid fever, says that the microscopical examination of the liver in typhoid fever shows more or less change in every case, depending upon the severity of the infection. The liver-cells first show cloudy swelling, and later on granular degeneration and fatty change. Eventually they may break down entirely. The gall-bladder may be the seat of ulcerative or a diphtheric process on its mucous surface. Secondarily, the larger bile-ducts may be involved with secondary changes in the liver, leading to abscess. According to the researches of Chiari[8] and Birsch-Hirschfeld,[9] the typhoid bacilli are almost constantly present in the gall-bladder in cases of typhoid fever. Talma[10] has shown in an experimental way that by injecting typhoid bacilli into the gall-bladder a general though mild angiocholitis developed, preceded by a cholecystitis. A careful review of the literature shows few cases of this variety of catarrhal cholangitis as a complication of typhoid fever. Cases of suppurative cholangitis secondary to cholecystitis have been more frequently reported.

An adenoma was also discovered in this same case. This, however, must be regarded as an accidental finding. It bore no relation to the typhoid infection.

In another case a girl of ten years came to autopsy. The liver showed a condition of acute hematogenous hepatitis. The central vein, the capillaries and the interlobular vessels were congested. In the center of the lobule the liver-cells showed fatty degeneration. Small cell-infiltration occurred into the interlobular connective tissue, and also between liver-cells. Small areas of focal necrosis were observed. There was an increase of interlobular connective tissue with formation of new bile-ducts.

Pancreas.—In the case above mentioned, the histological examination of the pancreas showed an acute interstitial pancreatitis. There was congestion of the vessels and small cell-infiltration in the interlobular and intra-acinous connective tissue.

Spleen.—The spleen was palpable in 84 cases. Not infrequently the splenic enlargement was observed during the first week of the illness. Tenderness upon palpation of the spleen was seldom observed. In several cases where it had been excessively enlarged the involution of the organ was gradual, and not infrequently the diminution in size was not complete until after the entire cessation of the fever. We learned, however, that the continued persistence of an enlarged spleen was to be looked upon as probable evidence that a relapse would occur.

Lungs.—Bronchitis is very often observed during the first week of the disease. It occurs in most of the severe cases, and may occur in those of mild type. It was noted 40 times in our cases. Bronchopneumonia occurred five times, and lobar pneumonia twice.

Heart.—Endocardial systolic murmurs occurred in 13 cases. These were for the most part accidental murmurs, as shown by the fact that they disappeared during convalescence. In five cases a diagnosis of mitral regurgitation was made with compensated heart. These probably antedated the occurrence of the typhoid. In one case the heart was markedly irregular, with somewhat rapid pulse, and this condition continued for nearly two weeks. In this case an acute myocarditis was suspected. The patient recovered.

Skin.—The roseola was seen during the first few days. It was not uncommon to find it developed on the third or fourth day after what appeared to be the actual onset of the disease. It was noticed gradually to disappear as convalescence approached, and nearly always reappeared if relapse occurred. Our records show that roseola occurred 53 times on the abdomen. In one case it lasted undiminished for 25 days; in 16 cases the rash occurred over the abdomen and thorax; on buttocks and abdomen in two cases; in iliac region in one case; on axilla and abdomen in one case; on flexor surface of arms in one case; over chest, abdomen and buttocks in one case. The rash, with perhaps one exception, appeared in crops during the course of the disease, so that a number of new spots could be seen every few days, the old ones disappearing in the meantime. In one case the roseola became the seat of purpuric spots.

Late in the febrile period and during convalescence sudamina were observed in four cases. Furunculosis occurred in 12 cases. In two cases general furunculosis occurred. In eight cases abscesses of large size were found under the integument in various parts of the body. Onychia was observed in one case.

Erythema.—A diffuse erythema is not uncommon in any febrile affection. An erythema occurring early in the disease may confuse the diagnosis with scarlet fever, particularly if a pharyngitis be present. Erythema occurred eight times. In one case it was diffused over the entire body; in one it was localized; in one it was transitory, and in two it was confined to the face.

Urticaria occurred in one of our cases early in the second week. Bedsore and multiple gangrene occurred each in one case.

Desquamation.—This was observed in 10 cases. It occurs during the convalescence stage, and consists of exfoliation of fine scales. The exfoliation is not as extensive as in scarlatina, and more resembles the desquamation of measles.

Special Sense Organs.—Involvement of the middle ear in typhoid fever of children is comparatively frequent. Otitis media occurred five times; once it was bilateral; four times it occurred only in one ear. Severe conjunctivitis was observed twice. The pupils were dilated in a very large number of cases, particularly during the height of the disease.

Urine.—The test for the diazo reaction was made in nearly every one of our cases. It was noted to be absent nine times. Its value in this disease depends upon the fact that it occurs in a large proportion of the cases at some time during the disease. The reaction is most pronounced after or during the second week of the disease. The reaction occurs in acute miliary tuberculosis, chronic tuberculosis, measles, scarlatina, malarial fever, pneumonia and other diseases, and depends for its occurrence upon the fact that fermentation and decomposition are going on in the intestinal tract, and that the products thus manufactured are being absorbed, in due time to be eliminated by the kidneys. The urinalysis showed the specific gravity in more than two-thirds of the cases to be 1.018 or less. The presence of albumin was noted in eight cases; hyalin and granular casts in 13 cases.

The bacteriological examination of the urine in 15 of our cases was carried on by Dr. H. E. Davies. His report is summarized as follows:

R. C. No typhoid germs found, but bacillus coli on 31st, 40th and 44th days of disease.—M. F. Typhoid germs found on 34th, 42d and 46th days, with albumin and casts.—R. L. Typhoid germs found on 20th, 28th, 37th, 44th and 50th days, with albumin.—F. I. No typhoid germs found, but staphylococcus pyogenes aureus on 21st, 30th, 37th, 53d days, with albumin.—F. K. Staphylococcus pyogenes aureus found on 23d, 31st, 40th and 48th days. No albumin.—R. H. No typhoid germs, but bacillus coli, or a variety of typhoid germ, found on 40th day.—I. L. Typhoid germs found on 40th, 44th and 50th days, with albumin and staphylococcus pyogenes aureus. —P. G. No typhoid germs, but micrococcus ureæ on 14th, 21st and 28th days.—B. F. Typhoid germs found on 22d, 30th, 34th and 47th days, with staphylococcus pyogenes albus and albumin.—H. M. No typhoid germs, except possibly a variety on the 27th day; no albumin.—S. S. No typhoid germs, but micrococcus ureæ on the 14th, 22nd and 30th days; no albumin.—T. W. Typhoid germs found on 20th, 28th and 35th days, with albumin and pus.—A. M. No typhoid germs, but bacillus coli on 16th, 23d, 31st and 38th days; no albumin.—M. F. No typhoid, but bacillus coli on 12th, 20th, 28th, 35th and 44th days; no albumin.

Summary. (1) Out of 90 specimens of urine, representing 15 cases of typhoid fever, 17 specimens, representing five cases, showed the presence of the typical typhoid bacillus.

(2) In 18 specimens, varieties of the bacillus coli and of the typhoid germs were found.

(3) In the greater number of cases the typhoid organisms were first found from the end of the third week to the middle of the fourth week of the disease. They may, however, make their appearance as early as the end of the second week, or as late as the fortieth or forty-fifth day.

(4) The typhoid bacillus, when accompanied by other species, especially the staphylococcus pyogenes aureus, may occur in such small numbers as easily to escape notice.

(5) As pointed out by Horton-Smith and Petrusky,[12] the typhoid bacillus may be found in the urine in such large numbers as to render the urine turbid.

(6) The largest number of typhoid bacilli in the urine is more likely to be found just after the height of the fever, or at the beginning of the defervescence, from which time they usually decrease in numbers as long as the examinations continue.

(7) In the cases examined by me, where the bacillus of typhoid was found, albumin was always present, frequently in large amount.

(8) In the cases that contained the typical typhoid bacillus pus was almost invariably demonstrable, even though in many cases no pus microbes were present. This would seem to lend additional support to the theory that the typhoid bacillus may itself, under certain conditions, be a pus-producer.

(9) The results here presented, as well as those of other investigators, demand that a systematic bacteriological examination and centrifugalization of all urines from typhoid cases should be made.

(10) When the typhoid bacillus is detected by this means some measures of prophylaxis should be taken against infection. From the first appearance of the typhoid bacillus until it disappears rigid disinfection of the urine should be practised. The ideal prophylaxis would be attained by preventing the development of the typhoid germs in the urine. One means of accomplishing this result would be the administration to the patient of small doses of urotropin, as first recommended in these cases by Richardson.

Blood.—Widal reaction was made in every case, most frequently in our laboratory. The dilution was made in the proportion of 1 to 20; later the technic was changed so that the dilution was 1 to 40. The result was considered positive if at the end of 30 minutes agglutination was complete and motion arrested. The Widal was reported positive in all but two cases. It is difficult to state on what day of the disease the Widal was found to be present. Many of the patients were ill a number of days before admission; in several cases, however, it is safe to say that the Widal was positive on the second and third days of the disease. It was found as late as the fortieth day.

The blood in typhoid presents characteristic features. The hemoglobin gradually diminishes during the course of the disease. The number of red corpuscles also decreases in a gradual manner during the febrile period. At first the red cells are unchanged in form; later they may be seen to vary in size. If the anemia becomes severe poikylocytosis may occur. More rarely, nucleated reds, normoblasts and megaloblasts may be seen. The leucocytes at the onset of the disease are neither increasd nor diminished. At the end of the first week the number begins to decrease, so that during the third week leucopenia exists. If complications such as pneumonia, perforation and peritonitis set in, leucocytosis occurs. The blood-findings in one case are as follows:

L. M., admitted to hospital September 11; discharged November 9, 1901.

Date.	Leucocytes.	Reds.	Hemoglobin.
Sept. 12	9,000	4,810,000	73 per cent.
" 29	6,300	4,680,000	70 " "
Oct. 14	6,750	4,520,000	63 " "
" 28	6,600	4,160,000	68 " "

In seven of our cases other members of the family were ill with typhoid at the same time. In 10 cases the report was made that typhoid was prevalent in the neighborhood.

Out of the 90 cases treated two died. These have already been referred to. One girl eleven years old died as the result of a severe attack of the disease, with changes in the liver and pancreas and extensive ulceration of the bowel. The other child, aged twenty-one months, suffered from multiple gangrene and catarrhal cholangitis.

Treatment.—The treatment which we employed was the same that is everywhere in vogue. It may be divided as follows:

(1) Hygienic.
(2) Dietetic.
(3) Hydrotherapeutic.
(4) Expectant and symptomatic.

A large proportion of the cases ran the entire course of the disease without receiving any drugs. Patients were kept in bed and as quiet as possible, although they were encouraged to change their position in bed frequently. This enforced rest in bed could not be strictly adhered to in young children. It was necessary to pick them up on account of restlessness, or to change their napkins, and for their baths. The mouths were kept scrupulously clean by washing with boric acid solution. The usual precautions were practised concerning the prevention of bed-sores.

Only a few visitors were allowed in the ward at a time, and if a number of patients were ill visiting was abolished. During the febrile period the patients were kept on a liquid diet, consisting almost exclusively of milk, except in those rare cases where milk could not be borne. After the temperature had fallen to normal, strained gruels, broths and fruit juices were permitted. The patients were all encouraged to drink large quantities of water. No solid food was allowed until the tenth day of normal temperature.

The treatment of the fever was carried on on the hydrotherapeutic plan. Our experience soon taught us that children badly bore cool baths, that is to say, baths in which the water was reduced to a temperature as low as 70° or 75° F. The children who were thus bathed lived in constant terror of the succeeding bath. They were nervous and unhappy. In consequence of this they were restless, the pulse and respirations were accelerated. Not only this, but those patients who were given cool baths frequently reacted badly. They were literally forced into the water and retained there against their will; not a few of them chilled; many of them were somewhat cyanotic and excited after being replaced in bed. As is the custom generally, our little patients were bathed for a temperature of 103° F. They were carried from the ward into the adjoining bath-room, and were placed in the tub with water at a temperature of from 88 to 90° F.

The bath was so arranged that a hammock was suspended over the tub, and when the child was introduced into the bath it reclined comfortably on the hammock. We found, as will be shown by the accompanying charts, that in nearly every case if the child were allowed to remain in the tub for five minutes in water at 90° F. the bodily temperature was reduced two degrees, and the pulse and respirations fell a corresponding number of points. The children were continually rubbed while they were in the baths; they experienced no chilliness, no discomfort; they enjoyed them and looked forward to them. In those cases where the fall of temperature was not satisfactory, or where the fever was unusually high, it was found that by leaving the children in the bath for 10 or 12 minutes a greater reduction of temperature could be obtained. This is also illustrated by an accompanying chart. It was noted as a point of interest that the bath-water was usually raised two degrees, that is to say, water that was 90° F. when a child was placed in it was raised to 92° F. before the bath was finished. No antipyretic drugs were employed to reduce the temperature in any case. In those cases showing nervousness or restlessness, an ice-bag applied to the head sometimes gave relief. At times a small dose of Dover's powder or sodium bromide was given for restlessness and sleeplessness.

Constipation was treated by enemata, and cases of severe diarrhea were given small doses of deodorized tincture of opium. In the prolonged cases which showed the exhausting effects of the disease, where the pulse was rapid and weak, whiskey or brandy was employed, and moderate doses of strychnine were given. A child ten years of age was given 1-100 of a grain three or four times a day. A child three years of age was given 1-200 of a grain of strychnine three or four times a day. Intestinal antiseptics were rarely employed.

It is unnecessary to go into further detail concerning the various complications and conditions which arose and required special attention. Such complications and conditions were treated as they arose, on a rational plan. At the close of the febrile period patients were frequently given a tonic in a routine way, the favorite being the elixir of iron, quinine and strychnine.

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4326 Vincennes Ave.

PARASITIC AMEBÆ.

BY FREDERICK G. CANNEY, M.D.,

OF SAN FRANCISCO.

The occurrence of amebæ in certain malignant tumors, and especially in the squamous cell-carcinomas has received the attention of pathologists for many years.

In this disease as in countless others the simple occurrence of certain animal and vegetable parasites has been interpreted in the relation of cause and effect. The observation of such forms has led to countless errors from the fact that investigators, having seen these parasites with considerable regularity, and with a considerable breadth of experience, announce boldly to the world that they have discovered the cause of certain pathological lesions. It is not always possible to carry out the postulates of Koch for the reason that many human diseases cannot be transmitted to the lower animals; and again, suitable culture media cannot always be discovered that will furnish the necessary prerequisites for the life of the organism.

In the last two or three years we have all been interested in the announcements of Eisen, Plimmer, Gaylord, Schueller and others as to the occurrence of certain probably parasitic bodies found with very considerable regularity not only in epiblastic and hypoblastic, but also in mesoblastic tumors. I think all have as yet failed to cultivate the ameba and to produce similar growths in lower animals with the pure culture. While the occurrence of the ameba in malignant tumors is an interesting coincidence, and while there are many reasons for suspecting an infectious agent in certain cases, we must as yet be satisfied to accept the possibly rather unsatisfactory theory that the cause lies in some unexplained stimulus causing epithelial tissue to proliferate and infiltrate in an unnatural manner mesoblastic as well as epiblastic and hypoblastic tissue.

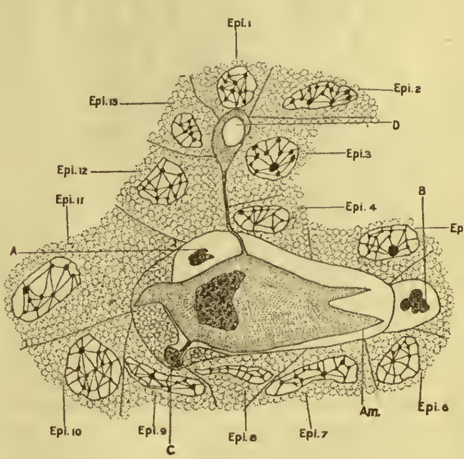

Fig. 1.—Section showing ameba (Am.) surrounded by epithelial cells (Epi.)

While the parasitic theory satisfactorily explains many of the primary growths, it fails to show why epithelial tissue proliferates in a locality where it has no normal habitation, as in metastatic growths occurring in mesoblastic tissue. Epithelial tissue can be produced only by proliferation of preexisting tissue of the same kind, and no amount of irritation can produce epithelial tissue from connective tissue. It is a strange coincidence that the amebæ often found in carcinoma, especially of the squamous cell variety,

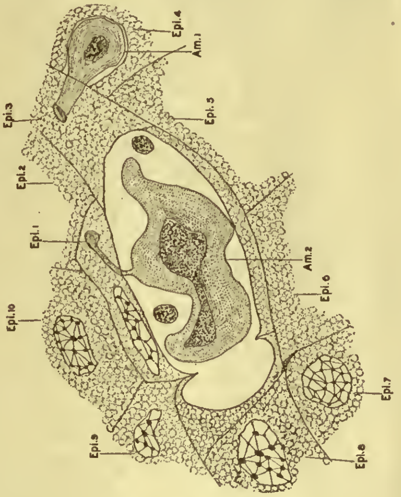

Fig. 2.—Section showing two amebæ with epithelial cells more or less destroyed.

morphologically resemble those found in sarcoma.

While I have seen amebæ with very complicated pseudopodia in carcinoma, some of which I have reproduced in the accompanying illustrations, I have never seen such perfect ones in any sarcomas.

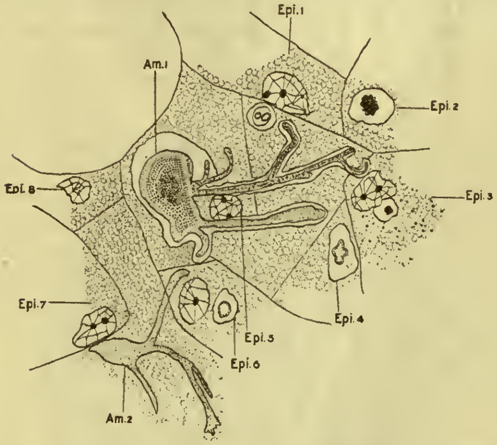

Fig. 3.—Section showing two amebæ each possessing complicated pseudopodia.

The amebæ that I have seen have almost always been situated in a vacuole, the smaller ameba in Fig. 3 being an exception to the others. All show a nuclear structure, or at least a darkly staining endosarc, that is sometimes not sharply differentiated from the ectosarc.

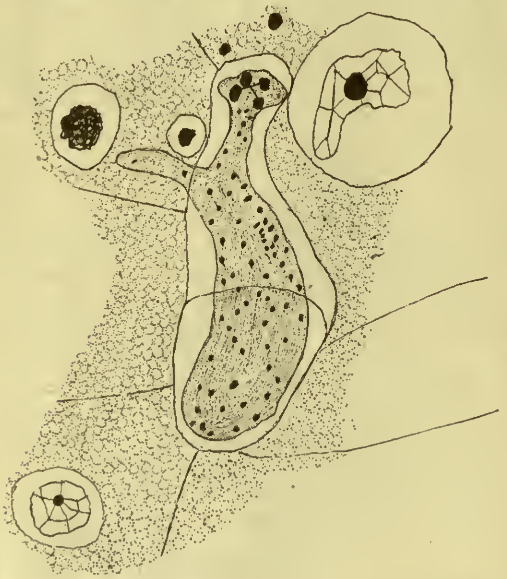

Fig. 4.—Section showing a single ameba having about 75 large granules in its body.

The amebæ with the most complicated pseudopodia I have yet seen are represented in Figs. 1 and 3. In both of these the organism which are each at least 50 microns in diameter, possesses slender pseudopodia that are at least 150 microns long, passing out through one or two epithelial cells. In Fig. 1 a distinct vacuole exists in the upper part of the pseudopodium. Fig. 4, while it does not have as long pseudopodia as the others, possesses a peculiar internal structure. The tissue is stained with eosin and thionin. There are about 75 very large blue granules, which are markedly differentiated on the red background. The granules are from two to three microns in diameter. It also possesses four spots or granules at the upper part of the right-hand pseudopodium that are distinctly larger than the rest, being probably four to five microns.

The pseudopodia in Fig. 3 are the longest and most branched of all, being at least 150 microns in length, and passing through several cells. What the relation of these low animal parasites may be to their host is problematical. They are frequently seen in epithelial cell-nests, a circumstance which appears to show an effort of nature to proliferate the epithelial tissue, surround the organism, cornify, and effect a digestion or destruction of the invading foe.

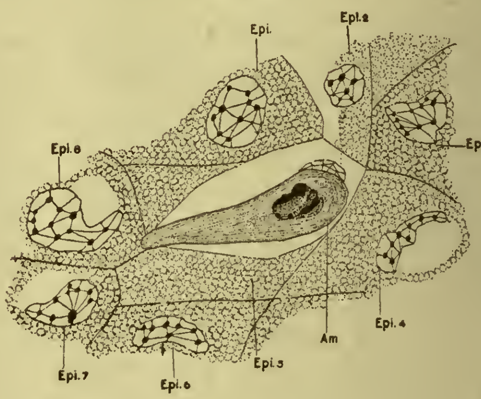

Fig. 5.—Section showing a single ameba.

The ameba multiplies by sporulation, as is plainly evident in many of my sections. The process resembles the appearance of sporulation seen in the plasmodium of malaria. The sporocyst contains 20 to 30 minute refractile bodies each two to three microns in diameter. The sporocyst ruptures, and the small spores are seen lying free in the tissue. The sporocyst frequently measures 30 to 40 microns in diameter.

Figs. 1, 2, 4, 5 were taken from a squamous cell-carcinoma of the rectal wall, and it might therefore be reasonably supposed that the amebæ may have wandered in from the intestine; but Fig. 3 was derived from a squamous cell-carcinoma of the face, where such contamination could not be possible.

Pruritus.—

℞ Acidi Carbolici	4.0-12.0	(ʒi-iij)
Glycerini	8.0	(ʒij)
Alcohol	30.0	(℥i)
Aquæ q.s. ad	500	(oj)

M. Apply as a lotion, or, and more especially in the local varieties of pruritus, use an ointment or oil of petrolatum or rose-water ointment or liquid petrolatum containing 1 to 4 per cent. of carbolic acid.

—Stelwagon.

VERTIGO IN NEUROLOGICAL DIAGNOSIS.*

BY PEARCE BAILEY, M.D.,
OF NEW YORK;
INSTRUCTOR IN NEUROLOGY, COLUMBIA UNIVERSITY.

Complying with the request of the President of the Academy, my remarks will be essentially practical, and will deal with vertigo only in its relations to diseases of the nervous system. They will contain, therefore, no reference to vertigo due to diseases of the ear proper, or to such peripheral causes as eye, nose, throat, uterine, digestive and similar disturbances.

Vertigo is of two varieties, subjective and objective. In the subjective the patient gives no external manfestations of being giddy. But he says that he feels so. The complaint is generally that he feels as though he were spinning around. In the objective variety, external evidences of subjective giddiness are present in that the patient staggers or falls. In this form the subjective sensation of the patient is that of external objects moving.

In spinal cord diseases and in affections of the peripheral nerves vertigo's place is unimportant. Its neurological interest is associated with the neuroses and with diseases of the brain. Before passing to these two great classes, however, a word must be said concerning its occurrence in certain toxic conditions which affect the nervous system. The effects of drugs, of alcohol, coffee and tobacco in causing dizziness are too familiar to require comment. This class of external poisons is only mentioned for the purpose of calling attention to one drug in particular, which is prescribed with great frequency. I refer to the iodide of potash. The *vade mecum* of the neurologist, and usually given in excessive doses in suspected cases of nervous syphilis, either for diagnosis or therapeusis, this drug is sometimes responsible for excessive vertigo. In its pronounced action in lowering blood pressure there is excellent explanation of this effect, theoretically. And clinically it has frequently been forced upon my attention that patients with suspected syphilitic lesions become worse under the iodide treatment, with the symptom of vertigo well in the foreground. This has occurred especially in patients in whom the diagnosis of syphilis was doubtful; or in those in whom, with undoubted syphilis, the disease had passed the stage when specific medication helps. Vertigo thus occasioned is often intense, sometimes causing the patients to stagger, and is accentuated by all changes of position. Of the various internal poisons or auto-intoxications responsible for vertigo, few belong strictly to the neurologist, though he is often consulted when this symptom results from auto-intoxication. The one disease strictly nervous, in that neurotic predisposition is necessary for its development, and which seems to be of autotoxic origin, is migraine. In migraine dizziness is often one of the symptoms of the full-fledged attack. It may also be, though not frequently, one of the equivalents in which this multiform disease presents itself.

Turning now to the main subject of discussion, I will speak first of vertigo as it occurs in neurasthenia and hysteria. In these disorders vertigo is chiefly subjective. It is complained of regularly and constantly, yet it is difficult to demonstrate. The behavior of the patients in regard to it is somewhat different in the two affections. Neurasthenics complain of dizziness, which comes on in attacks, or which is more or less constant. This is particularly the case in the depressed forms of neurasthenia and in hypochondriasis. The patients describe a feeling of uncertainty and insecurity, and a sensation of falling or a fear of falling, rather than that external objects move. Like all neurasthenic symptoms, it is intensified by excitement, fatigue and observation. The patients, sometimes, when talking about it, put out their hands as though to keep themselves from falling. Yet careful examination shows that they can walk a chalk line unfalteringly, and that there is no increase in the normal swaying when they stand with the feet closed together and the eyes closed. The pathological conditions embraced in the term neurasthenia are so numerous that sweeping generalizations on any one point cannot be made. The above statements regarding vertigo apply to most cases. It is most frequently subjective, is a symptom of fatigue, and is intensified by idea. But some neurasthenics present genuine objective vertigo. These should invite the physician's attention to closer investigation; for it may well be that the cause of the dizziness is to be found in fermentative digestive disturbances; or, in patients who have been for a long time ill, that it indicates degenerative changes in the cerebral blood-vessels of a character to more or less permanently impair the intracranial circulation.

In hysteria, vertigo is much less frequently complained of than in neurasthenia. In fact, in true hysteria the patient acts rather than complains. There are, however, a variety of hysterical disturbances of equilibrium and motion which might be mistaken for objective vertigo, especially in view of the readiness of assent characteristic of hysteria. The patient would readily, if questioned, agree that peculiar cerebral sensations were the cause of the objective vertigo. Thus in hysterical hemiplegia the tendency to stumble, to stagger, or even to fall, toward the paralyzed side, is often pronounced. In some patients of this class the mode of progression is perplexingly similar to that of cerebellar disease.

In a case of traumatic hysteria seen several years ago, I was quite unable to make the patient stand steadily with the feet together. He would persistently sway toward the right (the paralyzed side), until finally he was forced to put out the right foot to save himself from falling. In walking, also, he made leeway toward the right. The morbid ideas in this patient were so fixed that his peculiarities of locomotion were practically the same whether he thought himself observed or not.

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*Read by invitation before the New York Academy of Medicine, May 15, 1902.

In some cases of convulsive hysteria the attack is characterized by vertigo. This is the pseudo or hysterical Ménière's disease. Neither in hysteria nor in neurasthenia is it possible to establish the nature of vertigo by the one symptom. In all neuroses diagnosis is by exclusion. So with vertigo. Other causes of it must be eliminated before it can be postulated as purely functional and neurotic in origin. That it can exist in these affections almost purely as idea there is little reason to doubt, and this for the following reasons: Giddiness is a sensation from which everyone suffers, at some time or another, as the result of sudden changes in position, of slight errors in diet, or of other trivial causes. Also, no condition is more easily magnified, intensified, and prolonged by the subject focussing his attention upon it. Since in neurasthenia and hysteria the main mental characteristic is introspection and self-analysis, it is not surprising that in these disorders we find vertigo a prominent symptom without traces of permanent or adequate underlying physical cause.

In sharp contrast to the vertigo which occurs in the above-mentioned diseases, is that which results from organic disease of the brain. According to our present knowledge, vertigo from organic brain diseases is due to interference with the centers of equilibrium situated in the medulla and cerebellum. These centers can be effectively interfered with in several ways. They may be directly invaded by sclerosis, by tumor, hemorrhage, thrombosis, abscess and trauma, or by indirect means, through changes in the blood-pressure or general brain-pressure.

A few words as to the centers of equilibrium may be said here. The ganglion of Scarpa, in the internal ear, contains ganglion cells which are bipolar. Of the axones of these cells, one set is distributed to the semicircular canals, the other set, as the vestibular nerve, continues outward to nuclei in the medulla. There it is put in connection with the axone terminals of other neurones by means of which it is brought into relation with the pons, cerebellum and probably with the cerebrum. The mechanism thus composed, probably through some influence on the tone of the muscles, is the active agent in equilibrium. Since the cerebellum is clearly an evagination or appendage of the segmental nervous system, and since, with the acoustic system, it is the one active agent concerned in equilibrium, Loeb suggests that the cerebellum is a part of the acoustic segment. Certain it is that experiments on animals, and human experiments, through focal lesions, indicate the semicircular canals, the vestibular nerve, and the connections of the vestibular nerve in the pons, medulla and cerebellum, as the seats of disease when equilibrium is disturbed. It is a very attractive theory which collects all these units into one neural segment. Unilateral disturbances of equilibrium, arising from injuries to these parts, shows itself by a tendency to fall to one side, to stagger, to make muscular movements which are incoordinate and more forcible than normal. There also occur certain forced movements, such as turning the body or the eyes to one side. In human beings these motor symptoms are accompanied by the subjective sensation of extreme giddiness.

The symptoms of incoordination and those of loss of balancing power are practically the same, wherever the lesion in the mechanism concerned in equilibrium be situated. These symptoms, as far as the internal ear is responsible for them, have been considered by preceding speakers. The medulla, pons and cerebellum, and possibly the cerebrum, therefore, are the three nervous structures in which focal invasion may give rise to subjective and objective vertigo. In the pons and medulla such invasion is usually tumor. Suddenly acting forces, such as hemorrhage or trauma, are generally fatal. In the cerebellum, abscess outranks tumor in point of frequency. Cerebellar hemorhage may also cause loss of equilibrium, but trauma with such a result is rare. In the pons and medulla the symptoms of vertigo are usually outranked in importance by local palsies. Consequently, it is in the cerebellum that vertigo, as a focal symptom of nervous disease, has its great prominence.

Cerebellar ataxia and the great dizziness which accompanies it, is essentially static and locomotor. In the horizontal position the patient is usually free from it. It is not made worse by closure of the eyes. In a certain proportion of cases there is a tendency to stagger to one side. Theoretically the staggering is toward the side of the lesion. Practically, this is not always the case. The great difficulty in the diagnosis of these cases is due to the pressure symptoms at a distance. The diagnosis of disease of the cerebellum (with the exception of disease of the lateral lobes, which does not necessarily give ataxic symptoms) is in itself not difficult. But that the diagnosis of the side affected is too often impossible, is shown by the melancholy chapter of the surgery of cerebellar tumors. In abscess, the side of original infection, if this be unilateral, gives the clue to the side of the cerebellar disease. But in tumor the only symptom at all reliable for diagnosis as to the side involved is compression of the acoustic nerve. One-sided nerve deafness, in a case of cerebellar tumor, is almost positive evidence that the tumor is on the side of the deafness. The other symptoms cannot be relied upon. Palsies of the fifth, sixth and seventh nerves may be on the same side or on the opposite side. Hemiplegia may be on the same side or crossed. It is true that certain combinations of symptoms lead one to suspect one side more than the other. But if unilateral nerve deafness is absent, it is impossible to be certain as to the correctness of this diagnosis.

As has been said, the main centers of equilibrium may have representations in the cortex. Hitzig believes that the dizzy attacks so characteristic of cortical tumors in the central convolutions are due to direct interference with these connections.

Under the head of vertigo caused by changes in blood-pressure or in brain-pressure, can be grouped most of the cases of vertigo due to central nervous disease. Two chronic brain diseases stand out prominently in this connection, viz., epilepsy and general paresis. In the grand mal seizures of epilepsy vertigo is rarely complained of as an aura, and, as the loss of consciousness is profound, it can form no part of the attack itself. In petit mal, on the other hand, it is the most frequent prodrome. Occurring in this way it is of brief duration and not of great severity. Its diagnosis depends upon its periodicity, upon the manifestations which succeed it, and upon the association of other conditions.

General paresis rarely runs its course without attacks. In general these attacks are apoplectic or epileptic in character. In some cases, however, they take on the characteristics of petit mal, consisting of dizziness, or dizziness preceding other cerebral manifestations. The subject is mentioned here because the disease is becoming such an important factor in metropolitan life, and because it so frequently fails of general recognition. Its physical signs are, however, unmistakable. Few diseases permit more certain diagnosis; and the diagnosis is strongly reenforced if the history of attacks is obtained.

Cerebral endarteritis is the most fertile cause of vertigo due to brain disease. It sometimes occurs as an independent condition. It is especially prominent in the aged. It is often the chief clinical expression of general arteriosclerosis. Its relations to nephritis and syphilis need no comment. In cerebral endarteritis, dizzy attacks, plus the objective signs in the vascular system, may be the only symptoms, or cerebral endarteritis may have a distinct neurological symptomatology. The symptoms then are mental and physical. The mental symptoms consist of slight failure of memory, faulty attention, and a general deterioration in intellectual power. The patients become more irascible, irritable or emotional than formerly. Physically, there is apt to be anemia and some loss of weight. The patients complain of being more or less constantly giddy, a feeling which is intensified by sudden changes in position, by indiscretions in diet, and by changes in atmospheric pressure. This subjective sensation can be recognized as an objective symptom by observing the patient's station and gait. Without evidences of definite tract degenerations or focal brain disease, the patients present the Romberg symptom, and are extremely unsteady in gait. In general characteristics this latter resembles that of ataxic paraplegia. The dizzy attacks which accompany such conditions may be frequent and severe. Such attacks may persist for months or longer, or they may disappear entirely, without serious consequences. But sooner or later cerebral endarteritis is apt to be punctuated by an apoplectic stroke. As a symptom of apoplexy, vertigo is extremely prominent. Although absent in fulminating cases, attacks of dizziness are very common as precursors of strokes. They may occur daily for weeks before the final attack. They may be momentary, or last several minutes or longer. The patient's subjective sensations are most distressing. Objectively he clutches at surrounding objects or falls. Vomiting, or other indications of brain storms, may be present. The less severe and the less rapid the development of the stroke, the greater is the prominence of dizziness as a symptom. Thus it is quoted as more frequent in thrombosis than in hemorrhage, and less frequent in embolism than in either. Apoplexy due to syphilitic disease of the cerebral arteries—by far the most frequent form of brain syphilis—is characterized by its incompleteness. Consciousness is only occasionally obliterated, and many of the other apoplectic symptoms are wanting. In the cerebral manifestations of syphilis, therefore, vertigo holds a place of the highest diagnostic importance. As a herald of impending mischief, if promptly recognized and promptly acted upon the threatened stroke may in many cases be entirely avoided.

The other conditions due to disturbances in brain-pressure or blood-pressure are cerebral tumors and abscesses (non-cortical, according to Hitzig) and traumata. In tumors the dizziness is usually not extreme, being complained of chiefly upon changes in the position of the body. In traumatic lesions dizziness is generally lost in other symptoms at first. But nearly all patients suffering from *trauma capitis* complain of dizziness or an increased susceptibility to it for a long time after the accident.

OCULAR VERTIGO.

BY WILBUR B. MARPLE, M.D.,
OF NEW YORK;
OPHTHALMIC SURGEON, NEW YORK EYE AND EAR INFIRMARY, ETC.

By far the commonest cause of ocular vertigo is the diplopia following a paralysis or paresis of some nerve supplying the ocular muscles. As is well understood, when such a muscular anomaly exists the patient is annoyed by diplopia; that is, he sees two images, and the confusion arising from trying to distinguish between these two images is the immediate cause of the vertigo. It must not be forgotten, however, that diplopia is frequently met with unassociated with vertigo. The latter is an early symptom, and often disappears after the diplopia has existed some weeks or months, the patient being less and less disturbed as the weeks go by. Ordinarily the diagnosis of *some* muscular anomaly of the eye is not difficult. The patient tells us he sees double, and he often holds the head in some unnatural position—as, turned to the extreme right or left, or bent forward—having discovered that in this position the double images are fused into one and that the diplopia disappears.

As to the diagnosis, only two points will be referred to here. The first is that the less conspicuous the ocular anomaly is to the observer, the more apt is the patient to suffer from vertigo.

If the patient has a marked squint the two images will be so far apart that they will produce comparatively little disturbance. If, however, the deviation of the ocular axes is so slight as to be scarcely discoverable by the observer the two images will appear to the patient quite close together, and the resulting confusion will be much greater.

The second point to be remembered is that the failure of the vertigo to disappear when one eye is closed does not necessarily exclude the possibility of the existence of some muscular anomaly of the eye. If only the good eye is closed the patient will sometimes project falsely in the direction of the affected muscle, which will result in an apparent swimming of objects when he moves about or turns the head in different directions. The following is a safe rule: If closing one eye, the right, for example, does not cause a disappearance of the vertigo, then have the patient close the other eye; that is the left only. If we have to do with a paralysis or paresis of an ocular nerve the vertigo will then disappear at once. The question as to *which* muscle is affected is often very difficult to decide, but is of interest chiefly to the ophthalmologist. Only in exceptional cases is the vertigo from this cause severe, though I have seen a patient so disturbed as to be nauseated. As to the etiology of ocular palsies, syphilis, diphtheria and diseases of the brain and cord are the commonest causes, and the treatment would of course be that appropriate to the underlying cause. The patient should wear an exclusion-glass. While worn, this will relieve him of his symptoms. No operative treatment is indicated until other therapeutic measures have been carefully tried, and at this stage the vertigo has usually long since disappeared.

If we have excluded any paralytic muscular anomaly, I must confess that my expectations of finding in the case any ocular cause for the vertigo are very much lessened; for in my experience at least, real ocular vertigo, the cause of which lies in some corrigible anomaly of the eyes, refractive or muscular, is very rarely met with. When such a patient is referred to me by some colleague, usually everything else about the individual has been investigated with negative result, and as a last resort he is sent to the oculist to see if he can find any cause for the distressing symptom. If there is no ocular paralysis, I consider it to be very improbable, though still barely possible, that the eyes may be the cause of the vertigo.

Such patients should have a most rigid investigation made of their refraction, under a mydriatic, if possible, and any error however slight should be corrected. In many individuals, especially if neurasthenic, surprising and gratifying results often follow the correction of very slight refractive errors, particularly of hyperopia, with or without astigmatism. Under correction the muscles are next carefully investigated, and note made of any existing imbalance. I then give the patient, to be used for a while, the proper correction for his refractive error, ignoring for the time any muscular anomaly. If after careful trial this is productive of no relief, then any existing muscular imbalance is corrected as far as possible by prismatic glasses, combined if necessary with the proper refractive correction.

A priori imbalance of the vertical muscles is considered a more common cause of such a symptom as vertigo than a similar condition of the lateral muscles. If relief follows one is warranted in concluding that the cause was ocular, while a negative result usually warrants one in excluding the eyes as a cause. The writer can conceive of a condition of muscular imbalance where a tenotomy or some operation on the muscles might be necessary in order to relieve a patient of vertigo. As a matter of fact, however, I have never met with any such case where operative interference with the muscles seemed to be indicated for the relief of this symptom. As my experience grows larger I become more and more convinced that the influence of insufficiencies of the ocular muscles in the production of various disturbances has been vastly overestimated, and I share the opinion of many conservative men that a good deal of injudicious snipping of the ocular muscles has been practised.

In conclusion I would say that I have met with not a few cases of vertigo associated with ocular palsy, but the number in which a muscular or refractive anomaly of the eye was the cause has been very small.

35 W. 53d Street, New York.

TO WHAT EXTENT, IF AT ALL, SHOULD PHYSICIANS DISPENSE?*

BY H. C. MASLAND, M.D.,
OF PHILADELPHIA.

The question whether the physician should dispense his own medicines is one upon which the individual doctor is usually ready to express emphatic opinions, but which has not yet reached a harmonious solution. It can hardly be said that the physician who dispenses his own medicines is an innovator. The physician of the country districts has by necessity always been compelled to be provided with a full equipment of drugs. The early fathers of medicine compounded their own prescriptions. It can rather be said that a complete dependence on the druggist is the later development.

The druggist very early developed as a convenience to the busy practitioner. Engrossed in the supervision of a large practice, the physician willingly relegated to the druggist the more mechanical part of the art of healing. As a result of the specialization of the compounding art, the druggist attained a degree of superior skill, and thereby made himself the more necessary to the physician. Further, there seems no likelihood that the doctor will ever be independent of the druggist. The preparations requiring time, patience and skill for their production must remain in the druggist's special province. I might venture to assert that if the doctor would consult his own pleasure merely, he would willingly relegate to the druggist the whole subject of compounding and dispensing.

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* Read before the North Branch of the Philadelphia County Medical Society, June 19, 1902.

Prior to the advent of the tablet triturate and the compressed tablet, the dispensing by the physician of his own medicines in the more thickly populated districts never reached any magnitude. The tablet supplies a medicine that is cheap, of uniform strength, acceptable to most patients, and of reasonabe quickness of absorption. The profession very soon recognized that in the new preparation it possessed a means of being much more independent, and at the same time not subjecting itself to any great inconvenience in its dispensing. That the introduction of the tablet triturate and the compressed tablet was quite extensively appreciated by the profession was evidenced by the storm of criticism aroused against it, not only by druggists, but by many doctors who looked with disfavor upon the innovation.

I will briefly consider some of the objections that were raised against tablet dispensing. It is hardly necessary to state that the dispensing of tablets is practically the only kind of dispensing that is of interest to us. The old cry that the tablets contained inferior drugs is not heard now as much as formerly. No one need buy his tablets of any save manufacturers of proven integrity, men who possess ample facilities and a desire to conform their drugs to standard strengths, either chemically or, where the particular drug demands it, physiologically. We can certainly expect better drugs on the average from large manufacturers who have the pick of the drug-market, in many cases purchasing at the original source of supply, and with complete apparatus for drug-testing, than from the retail druggist with more limited facilities.

It is undoubtedly true that some of the tablets placed on the market deteriorate; for instance, tablets containing camphor rapidly lose a considerable part of that ingredient. It is equally true, however, that other made-up preparations containing ingredients that will evaporate, sublime, or undergo physical or chemical changes, are alike objectionable. The only comment necessary here is to say that due discrimination on the part of the physician is essential in meeting these limitations. I have heard druggists criticize the composition of tablets, stating that girls and other representatives of unskilled labor were employed at the mixing machines, and that the preparations were incompletely mixed and therefore did not contain the dosage of the various ingredients claimed. For my part I believe that a tireless, methodical machine, complete in all its mechanical details for doing the work required, gives better results than are secured in the average drug-store where the mixing of preparations is done by ordinary hand-labor.

The girl who tends the machine is not a druggist, but the measure of her skill is sufficient to complement the work of the machine, and we must remember that the supervisors of the work are selected pharmacists of undoubted ability.

One objection that was more pronounced in the earlier days of tablet manufacture, but which is still of decided moment, is the hardness of the tablet. This may be caused at the time of manufacture from too great pressure, or may result a little later from a setting or other change in the ingredients of the tablets. I have tested tablets in water, and have found in some cases that after 24 hours' immersion the tablet remained practically unchanged. It has seemed to me that this was a defect more common in tablets made by some firms than in others; yet I believe tablets containing certain ingredients placed on the market by *all* the makers of these products are inadvisable for use in this form. The physician will secure better results in these cases if he prescribes a fresh preparation in some other form.

There are many occasions arising in our daily practice where the immediate administration of medicines is of decided advantage. Many times, because of delay on the part of the patient or the druggist, hours are wasted before the administration of the medicine desired is commenced. He who has in his armamentarium tablets of calomel in fractional doses, aconitine, atropine, etc., can gain much valuable time that might otherwise be lost to the patient.

Another very great advantage in the dispensing of tablets is the surer control which you have over your patients. When the tablets give out the patient must either return to the doctor or remain untreated. We are all aware of the very great tendency of some patients to continue having a certain prescription renewed *ad infinitum.* It is not unusual to find patients preserving copies of prescriptions they consider especially miraculous, and, besides renewing these themselves, proffering copies to friends whose diseases they diagnose as being similar to their own. It is hardly necessary to mention here how frequently this works injury to the patient as well as to the physician.

In former years one heard much more of the unethical aspect of the physician's dispensing than is heard to-day. Now we hear more of the impropriety of the procedure and of its tendency to degrade the profession. It seems to me that when we carefully examine the matter and compare the procedure with the methods of former times, one is hardly justified in contending that dispensing is in anywise improper or degrading of itself. The ideal in medicine has been to preserve it from any flavor of commercialism. Dispensing has been looked upon as a step in the direction of the physician-druggist. A physician owning a drug-store is looked upon with disfavor in our city. He is debarred from membership in the County Medical Society. In other parts of this State, however, such disqualification does not hold. We believe that a drug business is a commercial enterprise, but so also are numerous other enterprises commercial in which physicians are daily investing their surplus money. Theoretically a physician has as much right to invest in a drug-store as in any kind of business. We make the point that a doctor, equally with any other man, has a perfect right to invest his money in any honorable commercial enterprise. Such a venture must be independent of his practice of medicine. It should be the investment of a man in a business not dependent upon or associated with his practice of medicine. When a doctor's prescriptions are to be filled at his own drug-store only, then a commercial quality is instilled that deserves condemnation. Not in extenuation but in comparison we would state, however, that the physician so wording his prescriptions that they can be filled only at a favored drug-store is equally culpable. Moreover, a drug-store stands in a peculiar relation to all physicians. We believe that theoretically a physician might own a drug-store without hurting his fellow practitioners, but in practice, with fallible human nature such is not often the case. It is not because of its commercialism so much as on account of its unethical possibilities that a drug-store becomes obnoxious. Dispensing is not a commercial enterprise. Even where a physician makes a charge for the medicines he furnishes. the nearest approach to commercialism, the profits are too insignificant to enter into consideration. Dispensing by the physician certainly gives him no opportunity to criticize the prescriptions of a fellow practitioner, which is the chief unethical aspect of the physician-druggist question.

We can see then that dispensing is neither a commercial nor an unethical procedure, and is not comparable to the business of the physician-druggist. The charge that it is so is due to a false conception on the part of many, both of the profession and the laity, due to the customs of the times. We believe it true that a very considerable number of people look with suspicion upon the tablet-dispensing old-school doctor. They have heard physicians and druggists state that tablets are inferior to freshly made preparations, that the doctors are poor imitators of homeopathy, etc., and so place him in a class not much above the quack. The question really resolves itself into one of policy. The physician is wise to examine the sentiment of his patients, and if he finds that the practice is regarded as a cheap attempt to gain favor the sentiment of the community should very naturally influence his decision in the matter.

It is well-nigh impossible to write an article upon this subject without referring to the gentlemen who sail under the banner of "infinitesimals" and "similia similibus curantur." Very much of the prestige gained by the homeopaths has been due to their dispensing confectionery dubbed as medicine. Many of the laity, intelligent or the reverse, ignorant of the basic principles of medicine, take the flavored tablets dispensed to them, and rely on the self-confidence of the physician for the healing virtue. A member of this class will solemnly assure you that he cannot take strong medicine—usually meaning anything that is bitter—yet under tactful management he will shortly be taking tablets containing strychnine or some other disagreeable drug. A peculiar inconsistency that I have frequently noticed is that these homeopathic disciples are considerable users of the various patent medicines on the market. Observation leads me to conclude that the modern tablet finds favor with the homeopaths, and that they are dispensing in no small degree according to the principles of treatment of the regular school. From a strictly humanitarian standpoint this is a distinct advantage. The advent of the tablet triturate, in addition to providing in itself medicines of easy administration, has spurred the old-school doctor still further to make his doses generally more palatable.

A feature worthy of some consideration is that in some districts the purses of the patients will not permit any great stretching for sickness. Many who would not acknowledge this to be the case are yet undoubtedly influenced to go to the homeopath rather than to the more expensive physician of the regular school. I am aware that many contend that this point is of no weight, but I have been convinced of it too often, both by actual confession and by inference, to doubt its accuracy. This is perfectly compatible with the fact that many persons are so prejudiced against sugar treatment that they will consult the regular physician under any circumstance.

A few words with regard to this question as it appears to the druggist might not be inappropriate. We are quite aware that the druggists generally see no virtue in the humble tablet triturate. I firmly believe that these gentlemen as a class are quite as honorable as the members of any other vocation. Yet it has always appeared to me that this condemnation of tablets is quite akin to the horror of the idol-makers at the temple of Diana of the Ephesians when they believed that St. Paul was about to spoil their trade. They must certainly admit that the evils of counter-prescribing, duplication and reduplication, substitution, etc., are only bringing upon them a merited retribution.

From a philosophical standpoint it must be admitted that if tablet-dispensing proves itself an advantage and an advance it is only another of those steps of progress that hurt the few for the benefit of the many. The druggist will of necessity continue, but he may have to accommodate himself to new conditions.

There is one evil of tablet-dispensing which in a paper like this must not be omitted. The manufacturers of these products have endeavored to supply a complete list of these preparations to meet all the ills that flesh is heir to. An examination of many of these formulæ discloses the fact that for supplying the preparation in tablet form the doses of the various ingredients are manifestly disproportioned to each other. Dispensing of such tablets will not secure the results that can be attained by a carefully written prescription. Again, if a physician dispenses extensively he will frequently meet cases where a formula different in some particulars would better meet the demands of his judgment. Too much care can not be exercised to prevent the physician from falling into a rut and relying upon the made-up formula at hand.

The points for and against dispensing by the physician have been advanced in such a condensed fashion that a summary is hardly necessary; but the conclusion I have reached in my own judgment is that all physicians should be equipped with a few of the standard tablets for immediate administration in emergency cases; that the more extensive dispensing is purely a matter of policy and to be decided by the individual physician, and finally that while the physician should never permit himself to lose grasp of the complete armamentarium at his disposal, he should be prepared at all times to avail himself of the advantages which the careful prescription will secure.

MEDICAL PROGRESS.

MEDICINE.

Myelopathic Albumosuria.—Concerning the symptoms of this condition, the following remarks are made by T. R. BRADSHAW (Lancet, Oct. 4, 1902). The onset of the disease is insidious. The earliest symptoms observed may be either those associated with the state of the bones or those associated with the state of the urine. As a rule it is the bone-condition which first leads the sufferer to seek medical advice, though there can be little doubt that the characteristic reaction of the urine would be found at a very early date if it were looked for. Kahler's patient, who was a medical practitioner, had albumosuria for several years. In this author's first case, the patient observed that his urine was milky several months before he felt ill, and the patient he saw in Lyons had been passing albumose for nearly a year and a half before he had to relinquish an active practice. As regards the manner in which the albumose makes its appearance there is only one observation on record, and that is in connection with the case at Lyons. This patient had an attack of pneumonia in December, 1899, from which he made a good recovery, but during convalescence traces of proteid were discovered in the urine, and the quantity gradually increased until it was as much as 10 per 1,000. If, therefore, we may be permitted to generalize from this single case, we may state that although in the developed stage the albumose is abundant, it is first excreted in traces and the amount gradually increases. It is obvious that the abnormal state of the urine is not likely to be discovered until the sufferer becomes a patient, and it is generally the condition of the bones or the associated general debility which leads him to consult a medical man. In fact, pains in the back or sides, suggesting rheumatism or neuralgia, together with progressive anemia and weakness are in most instances the earliest symptoms of the complaint. The pains are generally severe. They are aggravated by movement and are accompanied by local tenderness. A remarkable feature is that they vary in position and intensity from day to day and from week to week, and the sufferer may sometimes experience so great and prolonged a relief that his friends and even the medical attendant may be deluded into the belief that a real improvement is taking place. The patient in the author's first case, after being confined to bed for weeks in great agony, recovered sufficiently to go into the country, where he used to walk in the garden; but before many months the pains returned, and were ended only by death. Physical examination of the bones yields results which differ greatly in different cases. In the case referred to above no enlargement or tumor was felt, but the spine was fixed and bent, while the ribs seemed to have lost their natural rigidity, so that the chest-walls appeared to yield under the pressure of the hand or of the stethoscope, and irregularities suggesting fractures could be felt by the finger. In the other two cases which he has seen distinct tumors were observed in relation to the bones. The Lyonese physician had a semifluctuating swelling about the size of a large hen's-egg in connection with one of the ribs, and the X-rays showed that there was a breach of continuity of the bone. The only tender spot that could be found was on one of the ribs over the prècordium. The spinal column was quite movable. Anemia and lassitude were profound toward the close, but presented no special characteristics.

Bradshaw regards prognosis in the following light: The course of the disease is from bad to worse, though, as has already been stated, it is not always uniformly so. It is rare for life to be prolonged for a year after the symptoms are sufficiently pronounced to lead the patient to seek advice, but in Kahler's case it is alleged that some symptoms were present eight years before death. The prognosis is pretty much the same as in malignant diseases; death may be due to exhaustion or to some intercurrent disorder, of which pneumonia seems to be not infrequent. The author's first case developed pneumonia while he was watching the disease, but recovered, to die six months later, worn out by pain, weakness and diarrhea. The Lyonese patient died a week after Dr. Bradshaw's visit, from acute pneumonia, while the bone disease seemed to be not far advanced. It is an interesting fact that in the former case, the presence of albumose was recognized in the pneumonic sputum.

Spastic Obstipation.—The conscientious and successful treatment of chronic constipation is no light task. Too often these cases are treated without any attempt to seek the cause of the patient's trouble. An "opening diet" is glibly prescribed, and this is perhaps supplemented by a few oil injections and a powerful and temporarily certain purgative. By this means the physician is for the time being rid of a troublesome patient, and the latter is after a while forced to seek aid elsewhere. Spastic obstipation is one form of chronic disease that is frequently not even suspected. It was first described by Cherchewski, and recently has been investigated fully by Westphalen. It is described at length in Ebstein's recent work on practice. It is most common, writes VON SOHLERN (Berl. klin. Woch., Sept. 29, 1902), in neurasthenics, and occurs often in association with enteroptosis. Mixed forms of the disease are those in which atony of the bowel or mucous colitis are present. Von Sohlern narrates the clinical histories of a group of cases. An analysis of these cases shows the following symptoms to be of primary importance. The patient is unable to defecate properly; sticking pains or cramp-like sensations occur, and during the spasm the affected part of the intestine can be palpated as a cord-like mass. Spasmodically contracted intestine must not be confounded with masses of gut filled with feces; the latter can be indented and are not painful. Constipated stools are constantly present. Hyperesthesia of the abdominal wall and absence of the pharyngeal reflex, are not specific symptoms but are attributable to the underlying nervous state. In the intervals the patient often feels well; there is an absence of meteorism in many cases, implying an absence of the fungi and bacteria which cause fermentation and putrefaction and lead to constant discomfort in other forms of intestinal disturbance. Westphalen and others regard the presence of pencil-shaped fecal masses as diagnostic, but von Sohlern is unable to confirm this. Muscular exercises, so useful in other forms of obstipation, are inadvisable in spastic obstipation; on the contrary, rest is here indicated. It is profitable to put the patient to bed for a period of thorough rest. At least two weeks of this treatment are necessary. The patient should not be permitted to leave the bed until defecation has ceased to be painful. Westphalen has recommended a diet rich in cellulose. Von Sohlern prefers a bland, soft, nutritious diet; by this means the intestine is spared irritation, active peristalsis is avoided and the indications of the underlying neurasthenia are fulfilled. Water should be administered freely. Warm applications by day and a Preissnitz bandage at night have a sedative influence. Internally bromide of potassium is useful. If enemata are needed lukewarm salt solution should first be tried.

Chloride of Ethyl and Cancer.—There is usually a certain reserve as to adopting new methods of treatment for affections long since determined incurable. Among such new methods the following is offered by F. HOWITZ (Sem. méd., Sept. 24, 1902) for treating cancerous growth by refrigeration. It consists, after having curretted the affected parts thoroughly, simply in working upon them a spray of chloride of ethyl which must be repeated every two or three days. Under the influences of this refrigeration the tissues take on a white color, which is less distinctly seen within the cancerous growth itself. This particular point has an important bearing upon the diagnosis. The effects of this method of treatment show themselves by the disappearance of hemorrhages and of the foul-smelling discharge. At the same time fleshy granulations appear, and a healthy discharge is developed from the cancerous growth. Pain is also apt to disappear. He has tried this method on 34 cases, chiefly inoperable cancers of the uterus and vagina, and although the refrigeration is capable of destroying the tissues, this author has never seen the least harm come from it in treating carcinoma.

Relation Between Human and Bovine Tuberculosis.—Every serious contribution to the study of this much-debated question should be welcomed. Evidence has not been lacking, since Koch's startling utterance at the London Congress, to show that cattle are not wholly immune to tubercle bacilli derived from infected human beings. Such evidence has been presented by Thomassen, Bang, Svenssen, Klebs, Orth and others. But what was really wanted, according to J. FIBIGER and C. O. JENSEN (Berl. klin. Woch., Sept. 22, 1902), in order to disprove Koch's hypothesis, was the demonstration of cases in which the tuberculous process was localized in the alimentary tract and in which the infection could be reasonably traced to cow's milk, likewise in which the bacilli possessed the same virulence for cattle as the bacilli of bovine tuberculosis itself. The investigation undertaken by these writers sought to test the virulence, for cattle, of tubercle bacilli obtained (a) from cases in which the autopsy indicated that the infection probably had occurred through the alimentary tract, and (b) in cases of undoubted primary intestinal tuberculosis. In a case of the first variety a positive result followed the inoculation of a three-months-old calf, previously tested with tuberculin. Typical fresh tubercles were found in the peritoneum; but the bacilli appeared to possess but little virulence. In cases belonging to the second variety the bacilli derived from different human subjects varied in their virulence for calves. Some were non-virulent, others moderately virulent, and still others intensely virulent. Curiously enough the virulence of the bacilli was found to diminish as the age of the patient and the probable duration of the disease increased. While the number of cases included in these experiments does not justify the formulation of a law, the question naturally presents itself, Is it not possible that the virulence of tubercle bacilli for cattle gradually diminishes during the life of the bacillus in the human organism? It should be remarked here that Max Wolff very recently showed that tubercle bacilli of very great virulence for cattle may be found in elderly persons; in the case he reported, however, the intestinal tuberculosis from which the patient suffered had been present probably not more than a year. Koch declares that the subcutaneous inoculation of calves with tuberculous material can be used as a test to show, in a given case, whether the infection is due to human or to bovine tuberculosis. If this be so, the experiments described in this article, and those of Wolff as well, demonstrate the presence in human beings of tuberculosis of bovine origin, and the claim of the harmlessness of bovine tuberculosis to human beings falls to the ground.

Multiple Hereditary Exostoses.—A boy of nine years, upon whose chest and extremities the parents had begun five years previously to notice the appearance of small, slowly developing and painless growths, was presented for treatment to D. JUNGMANN (Berl. klin. Woch., Sept. 22, 1902). Inquiry revealed the hereditary character of the trouble. The boy's father, grandfather, aunt and sister were similarly deformed. These growths rarely, and only accidentally, produce serious discomfort. Medical aid is sometimes sought when trauma has caused a change to take place in the character of the tumor. Occasionally pain may be produced by pressure on neighboring tissues. Symmetrical growths are relatively common. From the standpoint of prognosis it is important to remember that Hartmann has demonstrated the possibility of "lacunar absorption." During a long period he observed the gradual absorption of a number of exostoses. A few cases of congenital exostoses have been described by Hutchinson, Vix, Dreher and Reulos. As a rule the growths are first noticed three or four years after birth. Rickets is an intimately related condition; indeed Volkmann believed the disease to be merely a special form of rachitis, though Helferich and Bessel-Hagen saw reasons for regarding the growth of multiple exostoses as a disease sui generis. A careful analysis by Jungmann of the cases which he describes leads him to side with the last-named writers.

Early Diagnosis of Icterus.—The importance of this symptom in clinical pathology makes its early recognition most desirable. As the icteric staining of all tissues must necessarily come from the presence of the bile-pigments in the blood-serum, HAMEL (Deut. med. Woch., Sept. 25, 1902) proposes that in suspected cases the serum be subjected to a clinical test. A fine capillary tube about 10 cm. long may be filled with blood from a puncture-drop at the lobe of the ear and both ends sealed with wax. If left in an upright position the serum will separate in a few hours from the corpuscles and its color may be examined. If bile-pigment is present a yellowish discoloration can be readily observed, which is in sharp contrast to the usual colorless appearance of the serum when exposed in a thin layer.

Amyl-Nitrite Burns.—The danger attending the use of this drug under certain conditions is made the subject of a warning by E. A. SCHUMWAY (Phil. Med. Jour., Oct. 11, 1902). He reports a case, a patient subject to attacks of Jacksonian epilepsy, who during a convulsion accidentally threw the contents of a small bottle of amyl nitrate into his right eye. As a result there was a deep burn of the cornea and conjunctiva, which extended out over the face. Despite prompt treatment the cornea sloughed and the eye was destroyed, with a resulting cicatrix extending down over the face to the middle of the upper lip. The author believes that the drug by repeated exposures to light and air had decomposed and at the time of use consisted largely of a mixture of nitric and nitrous acids, to which the severe burn was due. He therefore advises extreme care in keeping and recommends the "perles" alone for ordinary use.

Limits of the Kidneys' Resistance to Diuretics.—The ultimate effects upon the kidneys of prolonged administration of diuretics in therapeutic doses has been studied experimentally by G. DONZELLO (Rif. Med., Sept. 13 and 15, 1902) through observation of the influence of diuretin and euphorin upon the renal tissue and urinary secretion of healthy rabbits. Both remedies induced increased elimination of urine for a period of from two to three weeks, after which time there was a gradual diminution in the amount voided and finally subnormal secretion. Withdrawal of the drugs was followed by a return to the normal, and a second course of treatment brought about a repetition of the effects first noted, although the initial diuresis was not so marked. Histological examination of the kidneys of rabbits so treated showed certain abnormalities, such as hyperemia and dilatation of tubules and epithelium; yet these structural changes were not evidenced by the appearance in the urine of albumin or other abnormal constituents. Although the quality of the urine was not altered by continued renal stimulation, the author maintains that the condition of renal exhaustion shown after persistent use of diuretics points to the necessity for their intermittent administration, lest the onset of functional paresis and consequent uremia be hastened rather than retarded.

Blood-pressure in Disease.—The blood-pressure in a number of conditions has been investigated by I. BUTTERMANN (Deut. Arch. klin. Med., Vol. 74, Nos. 1 and 2) with the following results: In many cases of acute nephritis the pressure rises considerably very soon after the beginning of the disease; thus in one convalescent from scarlet fever it had increased by 50 mm., 48 hours after the onset of the albuminuria. The maximum is reached in several days, and the fall is proportionate with the general improvement. At the same time there is found by examination of the heart an accentuation of the second sounds at the base and a heaving impulse at the apex, with or without dilatation of the ventricle. In mild cases the increased tension was not seen, and it was also absent in a case of typhoid, with much albumin and blood in the urine, and in amyloid disease of the kidneys. All cases of chronic interstitial nephritis ran their course with increased blood-pressure, but this was not constant with the parenchymatous form, where normal and even subnormal pressures were frequently encountered even though the heart was affected. Venesection was performed on several healthy persons for studying the effects on pressure, and in all a considerable lowering of some duration could be recorded. The examination of several cases of lead-intoxication, presenting colic with a moderate albuminuria and cylindruria as the main signs, were negative. In persons with cardiac disease, when exercising, the rise was equivalent to that of normal individuals, provided compensation was good and no marked dyspnea developed. In others there was a fall of 3 to 14 mm.

Sarcoma of Stomach.—Round-cell and lymphosarcomata occur more frequently in the stomach than spindle-cell growths, and mixed types are still more rare according to J. PSTROKONSKI (Zeitsch. klin. Med., Vol. 46, Nos. 1 to 4). The most frequent seat of these neoplasms is the greater curvature and the pylorus, and they generally take their start from the submucosa or muscularis, less frequently the mucosa or subserosa. With the extent of the growth all the walls will be infiltrated, but least often the mucosa, so that ulceration is uncommon. The growth may be diffuse or circumscribed and in the former case the infiltration is more marked in the central than in the peripheral parts. Ultimately the entire stomach may be involved, leading to considerable increase in size and thickening of the walls. Where there is one tumor, it may project outward and reach a very large size, or inward when it is smaller and more fungous in character. The growth is slower than that of carcinoma, and, as a rule, it requires three to four years before death sets in, which accounts for the frequency with which large tumors are encountered at autopsy. The greatest tendency to form metastases is found in the lymphatic and round-cell varieties, and they occur in the lymph-nodes of the gastric region, peritoneum, liver, mesenteric, retroperitoneal and inguinal glands; less often in spleen, diaphragm, intestines, pleura, pancreas, suprarenals and kidneys. Several cases are reported where the ovaries were involved in young girls. The metastases not rarely undergo retrograde changes and do not reach the large size of cancer metastases. In most cases it is impossible to diagnose during life the nature of the growth, but where the course of the disease is much prolonged suspicion should be aroused. Here the onset is with anorexia, eructations, fulness and pain in the epigastrium, vomiting, at first after eating and later independent of this, constipation or diarrhea. Later, a resistance or tumor can be palpated, which increases, but slowly. Free hydrochloric acid is found more often than with carcinoma, since the mucosa remains intact. Hematemesis and vomiting of coffee-grounds material is rare. Sarcoma of the stomach occurs in young or middle-aged individuals, and rarely after the age of fifty. Females are somewhat more frequently affected than males. Enlargement of the spleen is frequent, but of no value in differential diagnosis.

Renal Insufficiency.—The inefficient results obtained by the usual urinary analysis when an exact determination of renal function is necessary is dwelt upon by A. LANDAU (Zeitsch. klin. Med., Vol. 46, Nos. 1 to 4), who discusses the supposed value of subcutaneous injections of methylene-blue in amounts of half a gram before all operations upon the kidneys. The dye undergoes a change in the system and is excreted as a greenish body and a colorless chromogen, and valuable data are derived from the time that elapses before excretion begins and from the duration of excretion. In normal individuals the first traces of color are detected in 15 to 20 minutes after the urine is boiled with acetic acid to reduce the chromogen, and after 48 hours the excretion is at an end. Three types of pathological elimination are observed: (1) Longer duration, with delayed onset; (2) shorter duration, with more recent onset; (3) shorter duration, with delayed beginning. The first variety is looked upon as characteristic for atrophic renal inflammation, the second for acute and chronic parenchymatous lesions, and the third shows considerable impermeability and severe disturbance of function. A number of cases were examined by the author to test the correctness of these views. In three severe cases of acute nephritis there was a slight retardation with somewhat prolonged excretion. One case of chronic parenchymatous lesion gave no evidence of earlier onset, neither did the results correspond in the interstitial form. In congestion secondary to cardiac insufficiency slight changes belonging to the first type were present. It follows from all these experiments that the value of the method has been much overestimated, for slight variations only may occur when clinically the proof of renal insufficiency is yielded by severe uremic symptoms. And even if an insufficiency may be disclosed its degrees and cause remain dark, and no clue is given as to the anatomical nature of the lesion.

Diagnosis of Diabetes.—In the majority of cases diabetes is a disease so readily recognized that even a medical student who has never before seen a case will diagnose correctly. Yet none of the typical signs may be present, the patient may be unobservant, and the necessity for making an immediate examination of the urine not to be evident. It is then well to remember that there are two symptoms which are nearly always present in the severe cases, and that these are emaciation and a pronounced feeling of muscular weakness. The latter amounts at times almost to paresis, and more commonly than this the patient exhibits a muscular weakness which is more marked than that seen in other diseases in which there is equally imperfect nutrition. It is a weakness which is extremely suggestive of a toxic origin, and may be an actual neuritis. Other suggestive signs are itching, especially of the genitalia, balanitis, furunculosis and the development of carbuncles, cataract and loss of accommodation, bilateral sciatic neuralgia, signs of locomotor ataxia, impotency and gingivitis. Furthermore, D. L. Edsall (Medicine, Oct., 1902) states that an examination for sugar should always be undertaken in persons at all obese and in those who are gouty or neurotic. The chief difficulties are met with in determining the nature of cases where a doubtful reaction occurs or in which a distinct reaction is obtained only once. Concerning the former question, the doubt will often be cleared by first diluting the urine or by passing it through a filter composed of animal charcoal, or, best of all, by the use of the fermentation-test or the polariscope or the phenylhydrazin-test, though with the latter glycuronic acid may give similar crystals. The blood-tests of Bremer and Williamson are of interest, but not of importance in actual diagnosis. A single urinary analysis is never sufficient, and one must be sure that the sugar, when found, has actually been passed with the urine as hysterics have practised deception and the urine may be sent in a bottle containing a saccharine solution. In severe shock, poisoning, or acute disease there may be a misleading, transient glycosuria, and to settle the question the patient should be put on saccharine and starchy food for at least a week and the urine repeatedly tested. The existence of a lactosuria with pregnancy must also be borne in mind. For determining the gravity of the intoxication the tests for diacetic acid and acetone can be applied, and where more complicated apparatus is at hand the estimation of beta-oxybutyric acid and ammonia, the latter especially forming the readiest and most exact method, for clinical purposes, of determining the degree of acid intoxication.

SURGERY.

Tumor of the Spinal Cord; Operation; Recovery.—The complete enucleation of a benign tumor of the spinal cord, followed by rapid healing of the wound and the complete recovery of the patient, are the interesting features of a case reported by H. Oppenheim (Berl. klin. Woch., Sept. 29, 1902). The patient, a girl of eighteen years, first complained of pain on the right side of the abdomen. This was soon supplemented by some stiffness and loss of power in both lower extremities, especially the right. Incontinence of feces was a temporary phenomenon, but ceased spontaneously and was not repeated. The bladder function was at no time disturbed. Moderate scoliosis was present, but no tenderness could be elicited in the spinal region. The slight degree of paresis involved both lower limbs; it was of the spastic variety. On the right side ankle-clonus was present and the Babinski reflex was obtained. The abdominal reflex was lacking in the lower right umbilical region. The existence of a tumor pressing on the spinal cord seemed probable. Examination with X-rays showed only the scoliosis. The pressure-symptoms gradually increased in intensity. Tuberculin was utilized for diagnostic purposes, and the result was negative. Girdle-sensations appeared in the region of the ninth, tenth and eleventh dorsal nerve-roots; below the umbilicus no abdominal muscular reflex could be obtained on either side; spastic paresis became more marked; the patient began to experience difficulty in emptying the bladder and obstipatio alvi developed. The clinical history justified the supposition of the extramedullary localization of the growth, and operation was resorted to. The arches of the ninth and eighth dorsal vertebræ were exposed and removed and the dura was divided, exposing a tumor 3½ cm. long and half as thick, springing from the dura but fused with the arachnoid at certain points so as to be separable only with difficulty. Histological examination revealed the fibromatous character of the growth. The wound healed without suppuration. During the first few days following the operation the cerebrospinal fluid escaped in considerable quantities, and a striking tachycardia appeared. The subsequent history relates to the rapid disappearance of all the pressure-symptoms which led to the operation.

Appendicitis.—In an article on the medical treatment of appendicitis J. Burnet (Lancet, Oct. 4, 1902) closes with the following summary: After all has been said, there still remains the difficult question to answer, When are we in duty bound to call in a surgeon? It is impossible to be dogmatic. For his own part, he thinks a surgeon should only be called in when, in spite of the careful carrying out of medical treatment, the patient's condition is evidently becoming worse. In dealing with appendicitis one is apt to expect too much in the way of improvement from day to day. During the satisfactory progress of many of these cases, the improvement is sometimes hardly perceptible, but if it is observed after a careful estimation of every factor involved one is warranted in persevering with medical treatment rather than in summoning a surgeon. He has no hesitation in saying that many cases of appendicitis are operated on that would have made a good and even speedy recovery under medical treatment pure and simple. Surgeons urge that there is less risk in operating while the patient's strength has not yet been exhausted than in letting the disease run its course. This is to a certain extent true, but one can do a great deal to carry the patient through his illness, and to prevent complications setting in, by careful attention and intelligent medical supervision. Treatment during convalescence, too, is of great importance. When the temperature and pulse have remained normal for about a week the patient may be gently lifted on to a couch for a few hours each day. At the end of a month or six weeks, he should be sent to some bracing but quiet country place. During this period the greatest care in dieting is necessary, as is also the avoidance of constipation. Nothing that is in the least likely to upset the digestive organs should be taken, and the bowels must be made to act once a day. The convalescent should be warmly clad, woolen underclothing being most essential. He must be careful to guard against chills, and he should always be indoors before sunset.

Some people, even though they have been warned, are very heedless in regard to these matters, and so one should always make a point of impressing on them the utmost need for careful attention to the advice given them. In conclusion, if medical treatment is to succeed in any particular case, it must be undertaken with more than ordinary care and watchfulness. Only in such circumstances will it be found to be of value.

Rare Cause of Death.—Tonsillar abscesses are common enough in the practice of everyone who has a clientele of ordinary numbers. Death from the bursting of such abscess, however, is certainly a great rarity, and the report of a case by A. Lyons (Lancet, Sept. 20, 1902) is worthy of note. The man, aged twenty-eight years, was admitted at 9.30 A.M., August 13, suffering from a very large left suppurating tonsillitis. He was given a warm bath, was put to bed, and drank a glass of milk. After half an hour the nurse heard him cough feebly, and going to ascertain the cause, was surprised to find him cyanosed. The reporter was immediately summoned, but before arrival the man was dead, although only five or six minutes had elapsed from the time the nurse noticed the cyanosis and sent the messenger after him. At the autopsy it was found that the abscess had burst, and that a large quantity of the pus had entered the upper part of the lungs. So far as literature shows, only one case of the same kind has been recorded, and that by Hilton Fagge.

Tumor of the Spleen.—A remarkable case is reported by Erbkam (Deut. med. Woch., Sept. 25, 1902), in which a large tumor of the spleen of a pseudoleucemic nature was extirpated with beneficial results. The patient, an anemic but fairly well-developed woman, presented a large, movable abdominal tumor on the left side, extending from the costal margin to the true pelvis. The abdominal cavity was entered by an incision along the outer margin of the rectus. The tumor was surrounded by adhesions, especially firm between the pancreas and its posterior surface, but it was successfully removed with only a moderate loss of blood. The recovery was uneventful, and a year later the patient was in perfect health and had made a reasonable gain in weight. Blood examination at this time was negative.

Treatment of Gastroptosis.—A method of suspending the stomach in a hammock made of the great omentum is proposed by R. C. Coffey (Phil. Med. Jour., Oct. 11, 1902). He applied it in two cases with marked displacement of stomach and colon and secured permanent relief from all symptoms. After freeing the stomach from any adhesions which may be present the omentum can be secured to the anterior abdominal wall by a single row of chromic gut-sutures introduced about an inch from its gastric attachment. If the abdomen is much relaxed and the colon shows a decided tendency towards prolapse it will be well to put two rows of sutures across, penetrating the entire thickness of the omentum just below its attachment to the colon. In this way a broad line of adhesions will be constructed so that it will be practically impossible for these organs to become prolapsed. It affords additional supports to the stomach, namely the posterior attachment of the mesocolon and the anterior attachment of the omentum to the abdominal wall. The dilatation which usually accompanies gastroptosis will also be relieved. The transverse colon being in the folds of the great omentum cannot be displaced downward, therefore this operation will greatly benefit enteroptosis by supporting the weight which would otherwise be riding the small intestine into the pelvis.

Points on Treatment of Fractures.—Since the advent of aseptic surgery the attitude of many surgeons in the treatment of difficult cases has entirely changed. The X-ray has furnished us with the means of more exact diagnosis, and operation with the replacement of the fragments is now more frequently resorted to. W. A. Lane (Practitioner, Sept., 1902) urges the advisability of immediate open operation upon those cases of fracture where the fragments cannot be replaced, especially in the instances of epiphyseal separations in children. It is often impossible to replace fragments by manipulation alone, and although nature performs wonderful changes to compensate for the misdeeds of the surgeon, yet the importance of accurate reduction in determining the future usefulness of the limb is so great that the utmost care should be observed. The dangers from operation are constantly being lessened, and it is to be hoped that they will soon reach such a minimal point that able surgeons will not hesitate to replace by sight the displaced fragments about a joint.

Closing of Celiotomy Wounds.—In order to avoid unsightly scars and prevent subsequent herniæ, A. H. Goelet (Med. Rec., Oct. 11, 1902) recommends the following method of making and closing the laparotomy wound. The skin and fat are divided in the median line down to the fascia covering the muscles. Then one side of the wound is retracted and the fascia, about a third of an inch from the median line, is nicked with a knife and split up and down with scissors to the limit of the skin incision. The muscle is then separated with the fingers dwon to the peritoneal fat. In closing the wound a continuous suture of No. 1 chromicized catgut is applied, beginning at the upper end of the incision, the first layer including the peritoneum, subperitoneal tissue and the lower border of the muscle. By including the muscle in this suture pockets for the accumulation of serum and blood are avoided. The second layer takes in the fascia and upper border of the muscle. The margins of the skin may be drawn together by the subcuticular suture or narrow strips of adhesive plaster. It is essential that all bleeding should be arrested before the integument is approximated.

Resection of Gangrenous Intestine.—Several instances are now on record where large portions of the small intestine have been resected and recovery followed. Fantino has removed ten feet and four inches from a woman of sixty, and Ruggi, after tearing the mesentery from a long strip of intestine, was obliged to remove 11 feet. G. R. Harris (Med. Rec., Oct. 11, 1902) was called 12 miles to see a case of intestinal obstruction, and after the patient had been carried in an ambulance that distance to a hospital the abdomen was opened and found to be full of a serosanguinous fluid. There was a band of constriction across the ileum very near to the cecum, necessitating removal of the small intestine close up to that organ and for a distance of seven feet and ten inches. The ileocecal opening was closed by inverting the cecum at that point and using Lembert sutures. A Murphy button half was previously placed in the cecum and an opening made near the appendix. The other free end of the small intestine was then closed, the other half of the Murphy button having been placed within it and brought out through the side wall. A lateral anastomosis was thus made between the small and large intestine and the external wound sewed up. Vomiting was a disagreeable feature for several days, but the patient subsequently made a very good recovery.

Tuberculosis of the Testicle and Epididymis.—I. Abell (Medicine, Oct., 1902) states that the epididymis is the most frequent starting-point of urogenital tuberculosis, being generally secondary to some other focus, but rarely primary. The testicle is rarely primarily affected. When the process begins in the epididymis it is probably intertubular; when it is secondary to other foci in the urogenital tract, constituting a descending infection, it is probably intratubular. Foci in other parts of the genital tract, or even distinct lesions, do not contra-indicate operation, since clinical evidence proves that when operated early healing of distant lesions may occur. Castration should be limited to those cases where the process has invaded the testicle proper; in all others epididymectomy with high resection of the cord is to be practised.

Operative Treatment of Anasarca.—The edemas so common in nephritis may be dealt with surgically in two ways; either free incisions are made or the tissues are punctured with trocars connected with drainage tubes. S. Trzebinski (Zeitsch. klin. Med., Vol. 46, Nos. 1 to 4) prefers the latter method, since the danger of infection is less and the healing quicker; since the amount of fluid obtained is larger; and finally, since the dressing is not so frequently moistened and does not require constant changing. The best place to introduce the trocars is several cm. above the external malleolus, in an upward direction, and lateral opening are not necessary. Immediately after insertion the fluid will drop out and connection should be made with a bottle by the side of the bed. The relief is sometimes very marked, though as a rule only temporary. The indications for use are all cases of anasarca not relieved by the usual cardiac and diuretic drugs; the contra-indications, where there is a tendency to necrosis, as in diabetes or tabes. There is no more danger from collapse than with the incisions.

EYE, EAR, NOSE AND THROAT.

Postoperative Results of Simple Chronic Glaucoma.—A careful analysis has been made of 50 cases of simple chronic glaucoma that were treated and operated upon by C. S. Bull (Med. Rec., October 4, 1902) in private practice. In 44 cases both eyes were involved. The ages varied from twenty-six to eighty-four, but the decade in which most cases occurred was between sixty and seventy. There was a temporary improvement in central vision in seven eyes; a permanent improvement in three eyes; immediate failure in central vision in two eyes; gradual failure in 58 eyes, and a maintenance of the vision existing at the time of operation in 24 eyes. A careful study of these cases has led to the conclusion that where the disease exis ts in both eyes of a patient better results as to visual acuity and the field of vision are obtained by simultaneous operation in both eyes. The effect of iridectomy is more certain the earlier it is done, and the slightest narrowing of the field, whether for form or color, demands operation once our diagnosis is made. The curative action of iridectomy stands in direct proportion to the amount of tension. Early iridectomy, while the iris is still mobile, the field but little contracted, and the cupping of the disk slight, very often arrests the disease, at least for a long period, and preserves what sight remains.

Diphtheritic Conjunctivitis.—Culture and proof by inoculation take considerable time. Hence a differential diagnosis between xerosis bacillus and Klebs-Löffler bacillus must depend entirely on the clinical picture, for effective antitoxin treatment cannot wait for the slow processes of the pathological laboratory. Clinically, diphtheritic conjunctivitis can be diagnosticated, writes M. Standish (Bost. Med. and Surg. Jour., Oct. 2, 1902), by the appearance of a marked velvety congestion of the conjunctiva, both upper and lower lids, with lachrymation and slight, if any, mucous discharge for three or four days. Afterwards the conjunctiva becomes densely infiltrated, the upper lid hangs over the lower, and there appears upon the conjunctiva, first upon the tarsal surface of the upper lid, a definite, tough, dirty-white, closely adherent membrane. If this is separated, which is done with difficulty, the surface beneath bleeds. There is some slight mucopurulent discharge, great chemosis, and considerable edema of the lids. Concerning the treatment by antitoxin, Dr. Standish describes the results of the treatment of 25 cases of diphtheritic conjunctivitis occurring among 8,000 cases of diphtheria at the Boston City Hospital. In all these cases the Klebs-Löffler bacillus was present in the discharges from the nose. Eight cases were admitted for ocular diphtheria; the others were faucial diphtheria which had incidentally a membrane on the conjunctiva. All were treated with antitoxin, the first dose being 4,000 units. Usually a second dose of like amount was given at the end of six or eight hours, and some had three or four injections. Such cases in 24 hours usually were doing well, and after 48 hours no more anxiety was felt for the eyes. In those cases in which there were corneal ulcerations the antitoxin favorably affected the corneal lesion, and with the exception of four cases the patients left the hospital with good vision. In one of these four cases the cornea upon admission seemed to be wholly necrotic. Six months later there was considerable vision. An opaque scar occupied approximately half the cornea. In the three other cases every cornea was lost. These three patients had diphtheritic infection during an attack of measles. This probably accounted for the severity of the corneal process. This report indicates a great advance from the day when ophthalmologists agreed that retention of vision after diphtheritic conjunctivitis was not to be expected.

Foreign Body in the Nasopharynx.—The presence of a foreign body in the nasopharynx is, strange as it may seem, a comparatively rare observation. One is reported, however, by R. Lake (Lancet, Sept. 20, 1902), which may be of service in general. The patient, a married woman, forty-eight years old, was sent to him for an opinion as to involvement of the accessory nasal sinus. The peculiar history was as follows: For some years the patient had drawn from the nose every morning either matter or matter with hard, offensive crusts. At times these were, according to her description, covered with mildew. The total duration of the trouble was, perhaps, 14 years. The so-called matter was probably mucopus. On examining the patient there was obviously a dry rhinitis sicca et atrophic and a nasopharyngeal occlusion. Both could be distinctly seen, covered with a crust of congealed mucus, blackish in color. The nasopharynx was so irritable that it was impossible to get any view from behind. About eight months after the first examination the patient again appeared, stating that she had a feeling of burning in the tongue, but it was still impossible to look at the nasopharynx. He then ordered the use of peroxide of hydrogen, 10 volumes, to the vault of the nasopharynx, by means of a postnasal syringe. Three days later a large fragment of the wing of a seed-vessel of an ash or sycamore tree was removed by the patient. It is impossible to say when this peculiar foreign body was introduced into the nose, and it is also equally impossible to do more than generalize as to whether the inflammatory condition of the nasopharynx was the result of its presence or whether the patient had suffered from some such condition before, which had permitted the entrance and retention of the foreign body. After removal of this fragment the patient's condition greatly improved.

The Dangers of Cocaine in the Eye.—The practitioner is generally led to prescribe instillations of cocaine every time there is a painful affection of the eyes; but according to E. Fuchs (Sem. méd., Sept. 24, 1902) this method is almost useless and has a number of distinct dangers. He claims that the affections of the conjunctiva are not sufficiently painful to warrant the use of this drug, while lesions of the depths of the eye do not lose their pain in the presence of cocaine. Affections of the cornea, which sometimes are painful, and which therefore might indicate the use of cocaine, are not very amenable to its application, because the analygesic effects of the drug are not lasting, and the drug itself is far from being inoffensive to the cornea itself. In fact, it is possible to find in a normal cornea considerable reaction accompanied by a desquamation of the epithelium after a general instillation of cocaine—for example, as practised for the operation of chalazion. Such are always accompanied by violent pain, on account of destruction of the epithelium. Consequently this authority seldom resorts to cocaine, and he does not use this medicine except with great precautions, especially closing the eyes immediately after each instillation. Instead of cocaine for the mild affections of the eye this authority prefers to use hot cloths, or cloths wrung out in hot water, placed upon the eye while the patient is lying down.

New Treatment for Chronic Rhinitis.—A method of treatment to which its author, D. Vedova (Gazz. Osped., Sept. 28, 1902) gives the name of "Rhinovaporization" is described as presenting many advantages, especially in "dry" rhinitis with crust-formation. Medicated vapor is simultaneously introduced into both nostrils by means of a simple inhalation-apparatus, devised by D. Vedova, which is provided with two delivery tubes with a small aperture at the under side for the escape of liquid which might be formed through condensation of part of the steam in its passage to the nares. The end of each tube is so constructed that it may be adjusted to the nostril. This treatment is said to be well tolerated by all classes of patients, and besides the beneficial effect of heat and moisture in softening secretions and loosening crusts it has a great advantage over other measures in that it carries medication to all parts of the mucous membrane.

Nosebleed.—There are countless methods advised for controlling nosebleed, and although such cases are seldom referred to the physician for treatment, yet it often happens that unless the medical adviser has given some thought to the subject he may be as helpless to relieve the annoying and even serious symptoms as the countless home remedies have been. H. W. Loeb (St. Louis Med. Rev., Oct. 4, 1902) believes that in nearly every case a local examination will disclose the fact that the hemorrhage comes from a small ulcer or abrasion on the septum just within the vestibule, and that the simplest and best mode of treatment is the application of local pressure. This may be very easily applied by pinching the lateral cartilages against the septum so that direct pressure is applied to the bleeding area. The nose may be held for 5, 10, or even 15 minutes. If the bleeding is not arrested the presence of blood in the pharynx will soon be noticed, but this occurs in a very small percentage of cases and is due to a capillary oozing from various points or a localized area more deeply placed. Packing of the nostril may then be necessary and should be done only with sterile gauze or cotton. Styptics are never justifiable. Peroxide of hydrogen is sometimes of benefit and has the further claim of acting as a cleansing agent in getting rid of any decomposing clots. Adrenalin chloride is also efficacious, its effect lasting about two hours. The last two agents may be successfully applied by soaking the gauze or cotton in them.

GENITO-URINARY AND SKIN DISEASES.

Formaldehyd in Lupus Vulgaris.—After five years' study of the disease, G. Matteucci (Gazz. Osped., Sept. 21, 1902) has arrived at the conclusion that lupus vulgaris is strictly a local affection and as such should be treated by ablation of nodules and destruction of the bacilli. Following a presentation of the advantages and disadvantages of the various local measures hitherto employed for the relief of this condition, a detailed description is given by the author of the method he has successfully used during the past three years. The evening before the operation a corrosive sublimate dressing is applied to the diseased part, and it is left in situ until the following day. Local anesthesia with cocaine is usually employed in the operation, though in severe cases chloroform narcosis is resorted to. The skin is put upon the stretch, thus bringing all tubercles fully into view, and thorough, deep curettage is practised, any excessive hemorrhage being controlled by cauterization. The wound is simply kept clean during the following five or six days, at the end of which time a gauze dressing saturated with glycerinated formalin, in the following proportions, is applied:

℞ Formaldehyd ......(4 per cent.).....gram 5
Pure glycerin ....gram 50

This dressing is renewed daily, the painful effect of the formaldehyd being obviated by application to the wound of cotton saturated with cocaine prior to each treatment. After a period of about two weeks healing is said to begin at the edges of the wound and it proceeds uninterruptedly, the resulting cicatrix showing a certain elasticity. Recurrence, after this method of treatment, has been extremely rare in the writer's experience.

Perineal Prostatectomy in Prostatic Hypertrophy.—Twenty-one cases of hypertrophy of the prostate were operated on by J. Verhoogen (C'blatt Kr. Harn- u. Sex.-Org., Sept. 20, 1902), according to Bottini's method. Ideal results were obtained in only seven instances. Failure of this procedure is due to the fact that the method is a blind one, the operator always remaining in doubt whether he has proceeded far enough. The use of galvanocautery no doubt lessens the danger of hemorrhage, but it is not a guarantee against this danger. Moreover, the operative wound is made usually upon an infected soil, which cannot be perfectly disinfected or drained. Verhoogen favors the Bottini operation only in cases of moderate hypertrophy not seriously infected. In more advanced cases prostatectomy must be resorted to for radical cure. The removal of the middle lobe suffices only in cases in which the hypertrophy is confined to this part of the prostate. The difficulties and disadvantages of suprapubic prostatectomy are fully appreciated by every surgeon who has once performed this operation. The perineal route, on the contrary, offers the shortest path to the prostate, which in this operation is easily and completely exposed. Verhoogen recites the history of three patients on whom perineal prostatectomy was performed with highly satisfactory results. The necessity of narcosis is a disadvantage as compared with the less radical Bottini operation. Fears are expressed by some operators concerning the extensive trauma which perineal prostatectomy necessitates, but as a matter of fact the trauma is not much greater than that inflicted when galvanocautery is freely applied. In simple cases without cystitis and in which the catheter can be readily passed, no operation whatever should be undertaken.

A Method of Circumcision.—On account of the disagreeable hemorrhage and the subsequent edema which often follow the ordinary methods of circumcision, in which many blood-vessels and the subcutaneous tissues are cut or torn, W. C. Klotz (N. Y. Med. Jour., Oct. 14, 1902) suggests a means by which these annoyances may be avoided and more accurate results be obtained. The prepuce is first retracted as far as possible toward the root of the penis and cocainization performed. A circular incision is then made around the penis from two to three inches from the coronal sulcus and parallel to it. Another circular incision is then made about half an inch behind the coronal sulcus, and a dorsal longitudinal incision joins the first two. Beginning at the dorsal incision, the cuff of skin outlined by these incisions is carefully dissected away from the subcutaneous tissues, the previous incisions having been made only through the skin. When the cuff is removed the posterior cut edge is drawn forward and sutured to the free edge just behind the corona. Primary union without edema should be obtained. When the prepuce is tight and cannot be retracted the dorsal incision may be made first. The operation was first suggested by von Zeissl for the treatment of irreducible chronic paraphimosis.

Treatment of Gonorrhea.—A new method of treating this malady by packing the urethra with an antiseptic oiled dressing is announced by S. T. RUCKER (Jour. Am. Med. Assoc., Oct. 11, 1902). The procedure is as follows: After the patient empties the bladder the urethra is irrigated with a hot solution of potassium permanganate (1-3,000), preferably with the Valentine irrigator. A tubular gauze packer, modified to fit the urethra is then introduced and passed back about four inches in anterior gonorrhea, and to the neck of the bladder in posterior gonorrhea and prostatic troubles. The urethra is then lightly packed with one-inch continuous gauze strips, or better, a loosely spun cotton cord, saturated with one of the solutions named below. The instrument is gradually withdrawn as the dressing is pushed through. The latter is left projecting a short distance outside of the meatus. The patient is instructed to go as long as possible before urinating, when the packing is slowly removed. The average patient will go from five to eight hours. The author packs the urethra once a day until after the discharge ceases, then every other day for 10 days or two weeks. The method has been successfully used in a number of cases, the discharge ceasing in from two to five days. The solutions are as follows: (1) Iodoform, gr. xcv; Balsam of Peru, ʒiv; Ol. Ricini, q.s. ad ℥iv; or (2) Ichthyol and Resorcin, aa, gr. xl; Balsam of Peru, ʒiv; Ol. Ricini, q.s. ad ℥iv.

THERAPEUTICS.

Keloid.—A favorable effect is reported by several authorities from injecting into the keloid until pale a 20 per cent. solution of creosote in olive oil. Inflammation, tumefaction and sloughing usually result, and when healed over, injections are again made. Thiosinnamin is also used by injecting c.c. 0.65-1.3 (10 to 20 minims) of a 10 or 15 per cent. solution in alcohol or in equal parts of glycerin and water. Tousey, Newton, Crocker and Pernet obtained good results, but Jackson, in a number of cases, failed. It may also be given in dose of 0.2 gm. (gr. iij) daily by mouth.

—STELWAGON in *"Diseases of the Skin."*

Intratracheal Medication.—Attention is called to the value of this method of treatment by E. FORSYTH (Buffalo Med. Jour., October, 1902), who during a period of five years has had excellent results from its use, especially in tuberculous cases. He states that under such medication expectoration is greatly reduced in quantity and becomes much less offensive; the purulent element disappears and the expectoration resembles the frothy expectoration of simple bronchitis. Fever and night-sweats disappear, and the patient gains in weight. The solutions used are menthol 7½ to 15 per cent.; guaiacol ½ to 3 per cent. in benzoinol or alboline; 1 to 4 drams being injected at a sitting. The technic of the procedure is described as follows: The patient draws the tongue forward with the right hand, at the same time throwing the head back and opening the mouth as widely as possible. The operator holds the laryngeal mirror in one hand and syringe in the other, and proceeds as though he were about to make a laryngeal application. As soon as the tube enters the cavity of the larynx the epiglottis is pulled slightly forward, the patient is instructed to breathe, the cords separate, the tube enters between the cords, and the syringe is emptied of the desired amount. By pointing the instrument to either side the bulk of the medication may be made to enter either the right or left bronchus.

Hemoptysis.—There is no doubt that of all the internal remedies for hemorrhage of the lungs, aconite is the best. If the patient is too much exsanguinated to use sedatives place the head lower than the feet and apply Esmarch bandages to the limbs. If the hemorrhage is just beginning, the following may be inhaled from an atomizer throwing a fine spray:

℞ Liquor ferri subsulphat.......1.3-2.0 (♏xx-xxx)
Aquæ dest.....................120.0 (℥iv)
M. et Sig. Use every few minutes.
Or ℞ Acid tannici ....1.3 (gr. xx)
Glycerini ....8.0 (ʒij)
Aquæ dest. ad..................90.0 (℥iij)
Or ℞ Aluminis ....0.4 (gr. vj)
Aquæ dest....................90.0 (℥iij)

If the Monsel solution does not stop the hemorrhage, tannic acid will probably fail; but, more important, the two should not be used together, as they are incompatible and the tannate of iron will be formed, which is as black as ink.

—H. A. HARE in *"Practical Therapeutics."*

Principles of Syphilis Therapy.—E. v. DUHRING (Münch. med. Woch., Sept. 16, 1902) objects very much to the injudicious and indiscriminate use of mercury as recommended by the French school. The best treatment is the combination of the specific with the symptomatic method, where only moderate amounts of mercury are used, and great stress is laid upon hygienic measures. It should never be commenced before the cutaneous lesions are manifest, and hypodermic injections are to be preferred, since such patients are required frequently to consult the physician and are thus much better kept under control. The salicylate is the best preparation, and the injections should be given twice weekly, the dose being from 0.08 to 0.1 gram. Ten to 15 injections are sufficient as a rule, and one or two should be given after all symptoms have abated. Turkish baths may be taken the day before or the day after the injections, and lesions of the mucous membranes are best controlled with chromic acid, neutralized with bicarbonate of soda. The second month after the injections iodide of potassium is begun, in daily doses of half to one gram for about one month. If then no symptoms are left all treatment is stopped. The patient presents himself twice a month, and with the appearance of new symptoms the potash is again ordered in the same dose. If at the end of three months the patient is still free from symptoms half the dose of iodide is given nevertheless. The intervals are gradually increased, so that during the second and third years only one or two courses are prescribed.

Fatal Abortion After Citric Acid.—Citric acid is a stronger poison than tartaric acid, which in doses of one dram has caused the death of an adult in nine days, after uncontrollable vomiting. It has occasionally been employed to produce criminal abortion, and a case is reported by H. KORNFELD (Fried. Bl. ger. Med., Vol. 53, No. 5), in which the result was fatal. The most prominent symptom here also was excessive emesis. On autopsy the stomach was found to contain a greenish acid fluid, and the mucous membrane was swollen and hyperemic.

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THE NEW YORK STATE MEDICAL ASSOCIATION.

THE nineteenth annual session of the New York State Medical Association, held as usual in New York city, has been a repetition of the success of the meetings of recent years, with an addition to the numbers in attendance and a distinct progress in the practical and scientific value of the papers presented. The State Association has become one of the forces in the medical life of the commonwealth, and this year's annual meeting was an unmistakable index of that fact. The happily very favorable weather in a year that has been noted for mischances in this respect brought professional representatives from all parts of the State, and the varied program proved an attraction for good audiences at all sessions. There was an excellent balance of medical and surgical papers presented, and the number of invited guests from other States who contributed to the scientific work added greatly to the interest.

The symposia were especially seasonable and timely in their subjects. The symposium on "colds" brought out a number of practical hints on this universal ailment that make the report of it presented in this week's MEDICAL NEWS of special value to the practitioner. The series of papers on surgery of the gastro-intestinal tract, to which Dr. Ochsner of Chicago and Dr. Wm. Mayo of Rochester, Minn., contributed articles on radical operations for gastric cancer constitutes what is practically another symposium, though not dignified with that name. The symposium on typhoid fever, a full account of which will be found in the Society Proceedings, brought out an excellent review of recent progress in the knowledge of typhoid, especially with regard to serum diagnosis and the interesting problems connected with the question of paratyphoid and paracolon infections. When we add that there were besides symposia on pneumonia and on the use of the Roentgen rays in medicine and surgery, some idea can be obtained of the eminent opportuneness of the subjects so happily chosen for discussion. The annual dinner introduced a novel feature. Instead of the usual after-dinner speeches, admittedly prone to be conventional and overpersonal, a special entertainment by professional talent was provided for the guests. Brander Matthews, in an article on postprandial oratory, said not long ago that it must ever be borne in mind that after-dinner speaking became popular about the time that negro ministrelsy began to decline. There is a tendency manifest of late years in many quarters to return to more deliberate methods in after-dinner entertainment, and the State Medical Association seems to have done well in permitting itself to be caught by the stream of tendency that makes for more hearty enjoyment on these occasions. Perhaps if a little more care had been exercised in the judicious elimination of some numbers of the program the novelty would have proved as agreeable as it can be made. The innovation is certainly in true humanitarian spirit and quite worthy of medical men, since no longer will it be necessary for professional brothers to sit for hours and curb their appetites while in the words of an experienced after-dinner orator —the sage of Roycroft—they keep their mental sphincters tightly pinched on ideas enough to occupy fifteen minutes or more, although these ideas are impatient to burst the bounds of the mental ampulla.

We understand that the committee on reunion of the State medical organizations made a report at the meeting that puts medical reconciliation a long step nearer to its eminently desirable consummation. The suggestion is formally made that the two present organizations shall merge under a new charter to be obtained from the legislature, which shall be drawn up on the lines of the present charter of the New York State Medical Association, the new organization to which the charter is granted, however, to bear the name of The Medical Society of the State of New York, and the members of both the old medical bodies to be eligible for membership. This seems to be an excellent set of expedients for the furtherance of reunion without leaving any hard feelings. We congratulate the committee on reunion, and also the committee of arrangements on the success of the meeting.

BERLIN'S CURABLE CONSUMPTIVES.

The erection at Beelitz, near Berlin, of an institution for the treatment of cases of incipient pulmonary tuberculosis is noteworthy and suggestive. Provision has been made already for the reception of two hundred male and one hundred female patients in a group of buildings designed and equipped for this special use. A sum approximating eight million marks has already been expended in this enterprise, and a very much larger outlay is contemplated.

The purpose of the authorities is plainly to make the Beelitz "lungenheilstätte" a model sanatorium. Not from motives of vainglory, but with a desire actually to cure its patients, is the institution to be thus perfectly equipped. As none but incipient cases will be admitted, the percentage of "cures" will probably be larger than ever has been recorded at any great hospital where this disease is treated.

What is peculiarly interesting and suggestive about Beelitz is the fact that it is not regarded as a charity, but as a profitable investment. We are all familiar with the very just view that every active life preserved by hospital care or by measures of preventive medicine represents a certain economic gain to the community. Nevertheless in our country this view does not often rise above the dignity of an academic principle. Hospitals are established and boards of health are instituted on other grounds—motives of charity, of duty, of civic pride, of self-preservation, prevail. Cities provide these institutions, or they are provided by individuals; in either case there is a sense of sacrifice, voluntary or involuntary.

The motive underlying the Beelitz sanatorium is purely economic. The funds are those of the "arbeiterversicherung"—the compulsory workingmen's insurance system inaugurated some years ago in Prussia—and the authorities believe that Beelitz will in the end more than pay for itself. It is to insure this result that no case will be admitted which is not regarded as curable.

It seems unfortunate that New York and other American cities have not made provision for the class of patients treated at Beelitz. For public education which will limit the spread of pulmonary tuberculosis, and for various hygienic measures which will contribute towards the same end, provision has been or surely will be made. The sufferer from advanced tuberculosis, incapacitated and helpless, is not forgotten, though not always wisely cared for. But the person who is neither well nor incapacitated, who, in the popular phrase is "threatened with consumption," is left almost wholly to his own resources. If he is poor and ignorant his future is dark, and even if he realizes his danger his prospects are not much better. Private charity rarely reaches him, and the city offers him nothing better than the hurried consultation and the too often wasted advice of the dispensary. For such a patient Beelitz is better than the dispensary, and it is to be hoped that our shrewd German friends will be able to prove that in the end the sanatorium is cheaper.

TUBERCULOUS CONTAGION—HUMAN AND ANIMAL.

The sensation of this year's Congress for Tuberculosis, which has been holding its sessions during the past week in Berlin, like that of last year's session in London came in the shape of a paper from Prof. Koch on the relations of animal and human tuberculosis. The distinguished dean of the science of bacteriology reiterates the assertion that bovine tuberculosis is not contagious for human beings. If infected meat and milk were capable of producing tuberculosis in man, then it would be easy to trace many cases of infection transmitted by these means.

As it is, such evidence is scanty and at best doubtful. A certain number of cases of cutaneous tuberculosis occur among butchers, and it is claimed that these are due to contamination with tubercle bacilli from infected meat. Prof. Koch, however, is of the opinion that such cases of tuberculosis after injuries are no more frequent among butchers than among carpenters. Tubercle bacilli are often present on soiled hands, and the wound provides for them a ready avenue of entrance into the tissues.

Prof. Koch says that while the transmission of tuberculosis from animal to human tissues may not be impossible it is an extremely rare occurrence. If it were not so there would be a large number of reported cases of intestinal and generalized tuberculosis, while as a matter of fact these cases are very infrequent. Certainly meat containing tubercle bacilli is often eaten. If such infected meat is comparatively so harmless, then infected milk cannot be very dangerous. The mere boiling of milk does not destroy tubercle bacilli in it, yet tuberculous infections following its consumption are very seldom traceable. Infected milk and meat then are not the source of danger in this respect that they have been considered to be and the scare over them has diverted attention in some degree from the real sources of the distribution of the disease.

The real sources of the contagious materials, in Prof. Koch's estimation, are human beings affected by tuberculosis. The attention now given to the inspection of cattle should be diverted to the inspection of the dwellings of the poor and of the factories in which they work, to the erection of better dwellings in the tenement-house districts, and to the segregation of patients suffering from the disease. Tuberculosis is an infection, and its ravages can be prevented just as those of other contagious diseases have been. It is not a question of heredity, but of environment. The disease can, with properly directed efforts, be completely eradicated. There must be more insistence on the danger from infected human beings and less on the possibilities of transmission from cattle. Bovine tuberculosis and its limitation are at best economic problems, they should not be made sanitary issues.

Prof. Nocard of Alfort, just outside of Paris, the distinguished French authority on veterinary medicine, to whom the microbic problems of animal life are often referred by the Pasteur Institute, said that Prof. Koch's position is untenable in the light of the discoveries that have been made since the distinguished German bacteriologist made his startling announcement in London last year. Nocard said that animals are seldom infected by human tubercle bacilli, yet such infections have been traced. The successful inoculation of the tubercle bacilli of one kind of animal into another kind is not rare. The characteristic bacillus tuberculosis of each animal group has a special virulence. Bovine tuberculosis is more virulent than any of the others, and is liable to affect other animals rather easily. Its transmissibility to man is then at least very probable, and some undoubted cases of such pathological transference have been reported during the past year as the result of observations stimulated by Koch's denial of its possibility.

The subject of the interinoculability of human and animal tuberculosis is thus opened up once more. Prof. Koch's position seems extreme, yet his insistence on the much more serious danger from human beings and the necessity for greater precautions in this regard is eminently conservative and in accord with our surest knowledge. That both sets of precautions, those against infected human beings, within proper bounds, and those against animal products, should be put in force is perfectly possible and even thoroughly advisable. It would certainly seem foolhardy at the present time and in the present state of our knowledge to diminish any of the surveillance of animal tuberculosis that has been so well organized with the expenditure of so much effort and influence. The question is as yet one for academic discussion, not for practical conclusions. When the best experts disagree we can only await the issue of further observation and experiments before formulating a definite opinion.

ECHOES AND NEWS.

NEW YORK.

Color and Insanity.—From the daily press we learn that the effects of color are being tried in the treatment of some insanities on Wards Island.

Consulting Neurologist, Metropolitan Dispensary.—Dr. T. D. Crothers of Hartford, Conn., has been elected consulting Neurologist by the Board of Trustees of the New York Metropolitan Hospital and Dispensary.

Columbia University Medical School.—Prof. James W. McLane, Dean of the Faculty of Medicine, in his report for the academic year 1901-02, about to be included for publication with those of President Butler and the deans of the other faculties, points out many needs and changes for the College of Physicians and Surgeons. Dr. McLane suggests, for one thing, that autopsy-instruction from a surgical standpoint be included in the curriculum at once. He mentions, as indicating the quality of the work of the school, that out of a graduating class of 145 last spring 101 received appointments in hospitals in this city and elsewhere, in every case the result of a competitive examination. In the hope of reducing the size of the entering class, the Committee on Curriculum has recommended that no conditional students be hereafter admitted. As a result of the limited accommodations in the laboratories six students were last year refused admittance. Next year the new entrance requirements take effect, the first step towards making the school postgraduate in character. Dr. McLane appeals for financial support in the maintenance of the technical library, invaluable both for instruction and research. Thirty-two colleges are represented in the entering class this year. Those having the largest representation are Columbia, Harvard, Yale, Princeton, New York City College, Lafayette and St. Francis Xavier. The other colleges include Williams, Rutgers, Wabash, Brown University, Wesleyan University, Holy Cross

College, Emory College, the Universities of Missouri, Alabama, Virginia, Leland Stanford, Junior, Boston, Colorado, Alfred, Brown, and Beloit and Amherst Colleges.

The State Hospitals and Their Future.—Too much publicity cannot, we believe, be given to Governor Odell's scheme to convert the New York State hospitals into a part of the machine sources of patronage. The Evening Post puts the case so well that we here quote in full from that newspaper a recent editorial expression: "The readers of the Evening Post are aware that we opposed to the extent of our ability the bill taking the control of the State hospitals for the insane away from the boards of local managers and putting them all under three persons, composing the State Commission in Lunacy. Our reasons for opposing this measure were twofold. We believed that local managers, serving without compensation and familiarizing themselves by frequent contact with the administrative officers and inmates, could perform the duties far better than three men, performing their duties and spending their time mostly at Albany. As there are eleven such hospitals and many thousands of inmates, it is manifestly impossible for three men, however industrious, to acquaint themselves personally with the facts necessary to a humane and efficient administration of those great institutions.

"In reply it was said that local boards of inspectors would be appointed to examine the institutions regularly and report their condition, from time to time, to the Commission at Albany. The obvious answer to this was that the inspectors would have no power to rectify any abuses that they might discover, or to carry into effect any reforms that they might deem needful. They could only report the abuse, if they found it, but the person committing it would claim the right to be heard, would take the case to Albany, and perhaps introduce witnesses; and so the three Commissioners never could get through their business at all in that way. Nothing short of eternity would suffice to hear all the cases that would come up if the inspectors did their duty.

"Another reason, and a more important one, for opposing this bill was that it would prepare the way for political management of those institutions, and make them eventually a part of the spoils system. We said that, however good Gov. Odell's intentions might be, he could not answer for his successors in office, that the mischief consisted in opening the door to partizan control. That door had been closed for good reasons, and it ought to remain closed forever. We cited the shocking condition that had prevailed in the State hospitals of Indiana as showing the inevitable consequences of admitting the spoils system to these institutions.

"Recent events in Illinois have given warning of the same general type. In that State both the Central Board of Charities and the local boards of the hospitals are political in their composition. Last spring a series of reports reached the columns of the press, detailing acts of cruelty and infamy, including the scalding of a patient to death, and also the fact that insane women patients had given birth to children. The Central Board was compelled reluctantly to make an investigation of one of those institutions. Its report was surprisingly similar in tone to those which are customarily issued from the War Department when any accusation of cruelty to natives is made against our army in the Philippines. The Board reported that women patients had given birth to children, owing to lack of protection, but that these occurrences were quite infrequent. It was discovered also that political assessments were levied on the employees of the hospitals, but that the payments were 'voluntary.' These things took place in Illinois. They have not taken place in New York as yet, but they surely will if the door is left open to the admission of politics, and we have to remark here that the Republican State platform expressly approves the law which leaves this door open —a fact upon which we commented when the platform was adopted.

"At no time did we think it possible that a Governor of the State could ever have a connection, either as shareholder or as creditor, with a company furnishing supplies to those institutions. We do not now impugn Gov. Odell's motives in becoming a shareholder or a creditor of such a company, but we point out the fact that his example in this case, if generally followed, would be a menace to good government.

"Now what has been the result of the act passed by the last Legislature? It is too soon to pass a decisive judgment, but the fact appears to be that only one member of the State Commission in Lunacy gives his whole time to the care of these eleven great institutions, and that person is a practical politician. Of the other two members, one is a practising physician in New York city—a man of eminence in his profession, and of first-rate character, but who took the office with the understanding that he was not required to give more than two days per week to the duties of the office. The other is a lawyer of Buffalo—a man of like character and attainments with the medical member, but one who has the care and responsibilities of a large practice at home, to which he gives his personal attention. Therefore, in practice, these institutions are already under political control, but politics has not yet reached the superintendents, stewards and other minor positions. The reason alleged for making this great change was economy, but according to a statement in Charities, the publication of the Charity Organization Society, there has been no reduction of expenses since 1900. We are assured on good authority that there has been a marked decrease of the recovery rate during the past year."

PHILADELPHIA.

First Negro-nurse Class.—The first commencement exercises of the special class comprising colored persons of the Philadelphia School for Nurses was held during the past week. There were 24 who had taken the short course given by this school.

Dinner to Drs. Keen and Wood.—A committee of prominent physicians of this city and Baltimore have arranged for a complimentary dinner to Drs. W. W. Keen and H. C. Wood in honor of their recent return from a long sojourn abroad. The dinner will be given at the Bellevue Hotel Nov. 6.

Smallpox Increasing.—For the week ending Oct. 25 there were reported 12 new cases of smallpox as compared with two cases the previous week. A physician in the northern section of the city was summoned before the Bureau of Health to explain his failure to report six cases under his care in one house. He candidly stated that he had erred in his diagnosis, and was advised to report at once any suspicious cases in the future. A resolution advising vaccination was adopted.

Dr. Lorenz Expected to Hold Clinic in Philadelphia.—Arrangements are being made for an orthopedic clinic to be held at the Jefferson Hospital by Dr. A. Lorenz of Vienna during the early part of November. The distinguished surgeon will operate in the clinic of Dr. H. A. Wilson, Clinical Professor of Orthopedic Surgery. It is said that one girl, twelve years old, who is to be operated upon has been waiting for the operation for six years. When she was six years old her parents sent her to Dr. Lorenz, who advised that operation be deferred until she was twelve years of age.

Training-school for Feeble-minded Flourishing.—At the annual meeting of the contributors of the Pennsylvania Training-School for Feeble-minded Children, at Elwyn, Oct. 21, the Secretary's report showed the following: Number of inmates, 1,015; number of employees, 179. The property comprises 337 acres of land, with buildings valued at $750,000, all free from indebtedness. The Treasurer's report showed a balance in the free fund amounting to $117,422. Mr. Samuel A. Crozer was elected President.

Improvements at Philadelphia Hospital Asked For.—At a recent conference between the Councils' Committee and the Board of Charities and Corrections estimates for the Philadelphia Hospital for 1903 were considered. Among the improvements suggested are the erection of a $150,000 operating-room, a $50,000 pavilion for nervous diseases, an $80,000 bacteriological and pathological museum, and a $150,000 laboratory. The consumptive ward, for the erection of which $80,000 was appropriated last year, but which was not built because the money was used for other purposes, was again discussed. In favoring the repetition of the appropriation it was stipulated that the money, if obtained, shall not be used for any other purpose. President Shoemaker is confident that the appropriation will be made. Dr. Lawrence Flick states that the Free Hospital for Poor Consumptives, to which Henry Phipps has recently given an additional $6,000, will cooperate with the city in any way in caring for its consumptives.

Gastroptosis.—In discussing this subject Dr. Alfred Stengel said that gastroptosis occurred in a large percentage of women, but not all produced symptoms. In both sexes the condition depends largely on physical conformation, it being frequent in persons having long, narrow chests. The wearing of belts by young men often causes gastroptosis by pressing down the intestines. Regarding the relation of gastroptosis to neurasthenia, Dr. Stengel thinks that it is capable of producing the latter affection, being one of the organic bases of that condition. The modes of examination of the stomach were discussed. When the stomach is filled the pylorus rises, as can be demonstrated postmortem, but it does not rise so much when filled with air as when it contains food. This fact will cause the examiner to be deceived if allowance be not made for the difference. Before operation is undertaken for the relief of gastroptosis be sure that it is causing the symptoms present. Gastroptosis per se is capable of producing the so-called Dietel's crisis when hepatoptosis or nephroptosis is not present.

Myocarditis with Especial Reference to Changes in the Elastica.—At the meeting of the Pathological Society, Oct. 23, Dr. W. M. L. Coplin reported a series of studies on the above subject. The most important changes, given in detail, were those found in the heart of a man of fifty-nine years, who had suffered during several years from attacks of angina, and who died suddenly during one of these attacks. The changes found were almost a typical instance of what Letulle describes as elastic sclerosis. There was some increase in the skeletal elastica and a marked increase in that of the blood-vessels. The most marked change was found in the subendocardial elastica, which in some areas showed as many as 12 layers. In most areas, however, the elastica was not arranged in layers, but as an irregularly woven network of large, coarse fibers having a flattened appearance. The muscle-columns and papillary muscles were practically nothing but elastica. A clinical point mentioned in this connection was that a heart undergoing such change is probably in better shape to maintain its work than is one in which the change has been largely into collagenous tissue. The heart in question had maintained its function fairly well in spite of the marked sclerosis of the left ventricle.

Pressure in the Bile-ducts in Floating Liver.—In a paper on this subject read before the Philadelphia County Medical Society Dr. J. D. Steele said that two varieties of hepatoptosis must be considered: (1) Total, where the posterior edge of the liver remains firmly anchored, the remainder of the organ prolapsing as if the suspensory ligaments were cut, the condition really depending on the failure of these ligaments to support the organ; (2) anteversion, where the anterior edge of the organ drops and the posterior rises. Two experiments regarding the pressure in the bile-ducts were made on cadavers, in one of which there was a floating liver, while in the other the organ was in a normal condition. The technic of passing fluid from the gall-bladder through the duct and estimating the pressure necessary while the liver was held in the various positions assumed by the floating organ was described. The experiments showed that the pressure necessary to cause the flow of fluid through the duct was from three to three and one-half times as great when the edge of the liver was at the level of the umbilicus as when the organ was in its normal position. The pressure was also found to vary directly as the dropping of the anterior border varied. It is thought that attacks of colic-like pain simulating that of gall-stones may be caused by the sudden obstruction occasioned by the change in position of the floating liver.

Consumptive Poor Hospital.—Through the philanthropy of Henry Phipps, a New York man, but a native Pennsylvanian, Philadelphia is to have a clinic for the treatment of poor consumptives. Mr. Phipps is very much interested in charitable work of any kind, and when he heard, through Dr. Lawrence F. Flick, President of the Free Hospital for Poor Consumptives, that Philadelphia was in need of a clinic he immediately gave $5,000 for the purpose of securing suitable quarters for a clinic, and said he would give enough money every year to support the institution. The Free Hospital for Poor Consumptives, which has the plans for the clinic in charge, has accepted the offer of Mr. Phipps and has already taken steps to secure quarters for the officers and dispensary of the clinic. While the exact site of the building has not yet been made known, it is understood that it will be in some district populated mostly by the poorer classes. Mr. Phipps stated to the society in charge of the work that he will give more money if it is necessary. The cost of the maintenance of such a clinic will be from $3,000 to $4,000 a year, all of which Mr. Phipps has promised to pay. He has long been identified with charitable work, and a few months ago gave $100,000 for the aid of the widows of the Boers. He has also before given several thousand dollars to the Free Hospital for Poor Consumptives which is in operation at White Haven.

Pyloric Carcinoma Simulating Gastrocolic Fistula.—Dr. D. L. Edsall reported this case. The patient was a man of fifty-nine, in whom the most striking symptom was fecal vomiting. A careful search of medical literature reveals practically nothing concerning this symptom in gastric cancer. The man was first seen two and one-half years ago in consultation. At that time he had severe gastric symptoms, vomiting, pain, emaciation and prostration. Gastric cancer was suspected, but the patient suddenly became better and remained entirely well for two years. Another attack similar to the first then came on—vomiting, pain, rapid emaciation (70 pounds lost in two months), and finally fecal vomiting. There were no physical signs referable to the stomach except a slight dilatation of that organ and slight epigastric tenderness. The colon was inflated with air and the patient belched some quantity. This was afterwards shown to have been entirely accidental at that time. Nutritive enemata of milk and eggs were given, and the vomited material was found to contain as much as 4½ per cent. of fat, indol, skatol, and intestinal organisms. For these reasons a fistula was supposed to be present. Death soon ensued, and autopsy revealed a carcinoma of the pylorus and lesser curvature of the stomach, there being no sign of other lesions of the intestinal tract. The fecal vomiting is probably to be explained by the presence of a dense ring of cancerous tissue around the pylorus, which did not cause obstruction but prevented contraction, thus allowing the vomiting of material that could hardly have come from anything but the enemata given.

Again the Philadelphia Almshouse.—The Press has been during the past few days printing much regarding the state of affairs at the Almshouse and Philadelphia Hospital. Started by the fact that the chief resident physician of the institution, Dr. Daniel E. Hughes, is at the point of death from tuberculous peritonitis, due in all probability to the unsanitary arrangements of the place, the reports have become, as usual, overdrawn. Statements are made such as that "in that community 6,000 souls, men and women, are herded as cattle in transit," and that "the abnormal death-rate is so high that it has increased the mortality of all Philadelphia." "Funds," it is said, "are lacking, not only to keep the living from dying but actually to bury victims after their premature deaths." These are not sober second thoughts. But conditions are bad enough, as proven by statements of visiting chiefs, particularly in the neurological department. Dr. Charles K. Mills, for over 25 years on the staff of the hospitals, is quoted as saying that "under the existing conditions outdoor occupation and recreation are practically impossible. The only effort that can be made to give these is through a doleful procession of those who can be trusted to walk out under proper guardianship." A report to the President of the board, made by the six visiting neurologists of the institution in March, 1902, has been unearthed at the City Hall, where it has since that time lain. This report recommends a building, on the corridor-pavilion plan, special wards, infirmaries for both sexes, wards for the tuberculous, laboratories, etc. "Apathy resulting from ignorance" is given as the cause for the existing state of affairs. Councils are looked to for relief. Dr. Hughes has just died.

CHICAGO.

Clinics at the Northwestern University Medical School.—As a part of the special exercises connected with the installation of President James of Northwestern University Dr. Norman Bridge gave a medical clinic on typhoid fever, exhibiting eight cases, the majority of them convalescing from the disease. Dr. Adolph Lorenz of Vienna, Austria, reduced four dislocations of the hip-joint and operated on a case of torticollis. Dr. Robert T. Morris of New York gave a surgical clinic. He operated on a case of acute progressive appendicitis and on a case of intestinal fistula.

Nurses for the Presbyterian Hospital.—It is said that the Illinois Training-School for Nurses will terminate its connection with the Presbyterian Hospital at the expiration of its present contract, Nov. 1, 1903. In a letter to the Executive Board of the hospital the managers of the school say: "At the expiration of our last contract, Oct. 1, 1901, it was with considerable reluctance that we entered into another, as we had found it impossible the preceding year to furnish the requisite number of nurses without calling in graduates, thus not only increasing our expenses, but reducing our income from special nursing. We had hoped that this demand would lessen and that we might continue to serve you another three years, but this we now find impossible. In closing our connection with the Presbyterian Hospital, we do so with since regret, and with the most cordial feelings towards the trustees and all those connected with its management."

Impure Milk.—Many samples of milk below grade have been found by the milk inspectors. This is largely due to the fact that their labors have been directed to the poorer districts. The City Department of Health has resumed the publication of the names and addresses of dealers who sell skimmed milk as whole milk, and it rests with the consumers to punish these by refusing to further patronize them. The dirty milkman is even more dangerous than the dishonest one, and the war against dealers whose facilities and depots indicate that they cannot handle milk properly will be waged with more severity than heretofore. Several samples of milk have been found adulterated with formalin, for which there is even less excuse than in hot weather. Suits have been commenced against the offenders, and it is to be hoped that they will be pushed vigorously.

Fraudulent Medicine Concerns.—A crusade has been undertaken against these concerns, and on Oct. 17 detectives raided a building on Michigan Avenue and confiscated a large quantity of literature of the "Chicago Cure Company."

Polluted Water.—Three scientists—a chemist, a bacteriologist and a pathologist—sustain every contention made by the City Department of Health in relation to the water-supply of the public schools, and the danger to the pupils in its use. They have reported the result of tests that they made of the water as a board of experts selected by the Board of Education for the purpose: "We would emphasize the fact that when water is furnished the common drinking-cup remains a constant source of danger, from which probably more is to be feared than from the possibility of typhoid infection." Faucets in the public school buildings will be kept closed until the Health Department reports that the supply from the Lake is comparatively free from danger as a drink, if the recommendation of the Committee on Buildings and Grounds is adopted by the board at its next meeting.

Releases in Injury Cases.—The United States Circuit Court of Appeals, Eighth Circuit, in Chicago and Northwestern Railway Company versus Wilcox, a personal injury case brought by the latter party, says that in the absence of fraud and mistake an agreement of settlement and release of an unliquidated or disputed claim as conclusively debars the parties from reviving and litigating it as a final judgment. Such agreements of compromise are uniformly favored and upheld by the court. A mere preponderance of testimony is insufficient to establish such fraud or mistake as will warrant the avoidance of a written agreement of settlement and release. The proof must be clear, unequivocal and convincing to have this effect. A mistake of a past or present fact may warrant a rescission of a contract of settlement and release. But a mistake in opinion or belief relative to the future duration or effect of a personal injury, or a mistake in prophesy or opinion as to an uncertain future event, is not a mistake of fact, and is no ground for the avoidance of a release or of a contract of settlement. The complainant in this case, who was sixty-five years of age when injured, compromised and released a claim for a broken hip. She knew when she settled that her hip had been broken; that it was a bad break; that the neck of the femur was fractured. She was led by the statement of her own physician, who was also the company's physician, to believe that she would be well within a year, and she settled on that basis. She was mistaken, and her injury and disability turned out to be permanent. The court holds that her mistake was not a mistake of fact, but a mistake in opinion or belief as to a future event, and that it furnished no ground for an avoidance of her release. Again, it says that it is common knowledge, with which all must be charged, that the future effects of a broken bone are uncertain, contingent on many conditions, and unknowable. The physical and mental condition of the sufferer, the state of his vital organs, his age, his habits of life, the character and temperament of his nervous system, and many other conditions that it is impossible to enumerate or even to conceive, inevitably affect the duration and the character of his disability and the amount of his suffering. Ignorance of the duration of the disabilities and of the ultimate effects of the injuries always exists where compromises are made before a complete recovery is effected. The cases are doubtless rare where the duration of the disability corresponds with the prophecy of the physician or with the belief of the parties when settlements are made. But compromises and releases are not voidable on this account, for the reason that the parties to them know the uncertainty of these future events, and by the very fact of settlement before they develop agree to take the chances of their effects. Their mistakes relative to the future duration of the disabilities and the future effects of the personal injuries that form the subjects of their contracts are mistakes of belief and not of fact, and form no basis for the avoidance of their contracts. Such was the mistake under which the complainant in this case labored. It was a mistake in the opinion of the doctor and in the belief of his patient with reference to unknowable future events, and presented no ground for a rescission of her release.

Bulletin of the Health Department, Week Ending Oct. 25, 1902.—Diphtheria threatens to be more prevalent and fatal this fall than at any time since its treatment by antitoxin was begun in Chicago some seven years ago. Twenty deaths were reported from this cause last week, as against 12 for the corresponding week last year, and this two-thirds increase in the number of deaths is made more significant by the increasing frequency with which the diphtheria bacillus is found in the daily laboratory examinations—an increase amounting to more than 55 per cent. during the last two weeks.

GENERAL.

Vienna Poliklinik Favored.—It has been known for some time that Baron Nathaniel Rothschild had intended to assist the Poliklinik Hospital here. On Friday morning the hospital authorities received notice that he had placed 1,000,000 kroner ($200,000) at their disposal. Archduke Rainer assisted in the elaboration of the stipulations, which are few, nearly everything being left to the discretion of the hospital managers. The capital remains untouched, only the annual interest being used; but should circumstances necessitating it arise in future the capital is then placed at their unhindered disposal. The hospital contains 140 beds. The inmates pay a small sum daily, but this rule is not always enforced. It is subsidized by the municipality, but there has been a yearly deficit. This donation places its funds on an assured basis.

Mississippi Valley Medical Association.—The twenty-eighth annual meeting of the Mississippi Valley Medical Association was held in Kansas City, Oct. 15, 16 and 17. The following officers were elected for the ensuing year: President, Edwin Walker, M.D., Evansville, Ind.; First Vice-President, Hugh T. Patrick, M.D., Chicago, Ill.; Second Vice-President, Wm. Britt Burns, M.D., Memphis, Tenn.; Secretary, Henry Enos Tuley, M.D. (reelected), Louisville, Ky.; Treasurer, Thos. Hunt Stuckey, M.D. (reelected), Louisville, Ky. Next place of meeting, Memphis, Tenn., Oct. 7, 8 and 9, 1903.

Walking Tours.—Walking is an art almost said one of the lost arts, says Country Life in America. It is astonishing how few know how to walk; know how to acquire the measured stride, the springy step, the easy poise of the body and the swing of the arms, which make walking at once one of the most healthful and enjoyable forms of physical exercise. For the real pleasure of walking one must turn to the country. Pavements are but dead, unyielding matter at best. In the turf of the country there is a spring in response to the pressure of the foot which is a delight and an inspiration in itself. The purity of the air sets the blood to racing gloriously. Good walkers find 20 miles a day a comfortable average, allowing plenty of time for rest and "loafing." Two weeks thus spent will afford memories to last for all time, and with them a measure of health and strength, a quickening of vital forces, a nervous energy which will find expression in increased power for accomplishment in the world's work.

Serum of Whooping-cough.—A young Brussels physician named Leureaux announces he has discovered the serum of whooping-cough, says the Sun. From the experiments which he has conducted hitherto the injection appears to be quite harmless. The first effects are apparent about forty-eight hours after the inoculation. The serum produces an early cessation of the coughing fits and a considerable diminution of the normal period of illness. If the injection is made immediately on the manifestation of the usual symptoms, the malady can be cured in eight or ten days. The usual course is from six to eight weeks.

Insurance Against Surgical Operations.—A movement has been started in Great Britain to provide insurance against surgical operations. Some such scheme is thought to be the only way of securing the independence of the working classes while physically incapacitated. The plan as outlined by a foreign expert is described as follows: "For a certain annual payment a subscriber might be entitled to (1) a sum down, or (2) free admittance to a nursing home and a free operation. The expense of illness, more especially of illness including an operation, is now so great that we see no possibility of effective provision for it on the part of people of moderate incomes except by some such scheme. The cost per week of two trained nurses alone—exclusive of medical attendance, the increased household expenses, and the change of air always desirable in the convalescent stage—would absorb the whole income of many professional and middle-class persons, who consequently have far less efficient care in illness than is available for the working classes."

Changes in the Medical Corps of the Navy, Week of Oct. 25, 1902.—Surgeon E. H. Marsteller, ordered to Newark, N. J., for duty in connection with recruiting. Passed Assistant Surgeon W. L. Bell, commissioned passed assistant surgeon, with rank of lieutenant (junior grade), from Nov. 16, 1901. Passed Assistant Surgeon M. W. Garton, detached from the "Columbia" and ordered to the naval hospital, Yokohama, Japan, sailing from San Francisco, Cal., Nov. 7, 1902. Passed Assistant Surgeon M. K. Johnson, ordered to the Naval Academy. Assistant Surgeon J. S. Taylor, detached from the naval hospital Yokohama, Japan, and ordered home and to wait orders. Assistant Surgeon R. A. Bachmann, detached from the Naval Academy and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C., Oct. 31. Assistant Surgeon J. H. Holloway, detached from the naval hospital, Chelsea, Mass., and ordered to duty at the Museum of Hygiene and Medical School, Washington, D. C. Assistant Surgeon R. E. Hoyt, detached from the Naval Academy, and ordered to the Museum of Hygiene and Medical School, Washington, D. C., on Oct. 31. Assistant Surgeons R. H. Michels, J. L. Neilson, ordered to the Museum of Hygiene and Medical School, Washington, D. C., on Oct. 31. Acting Assistant Surgeons H. Shaw, B. F. Jenness, ordered to the Museum of Hygiene and Medical School, Washington, D. C., Oct. 31.

Orders issued by Commander-in-Chief of Asiatic Station. Surgeon J. E. Gardner, detached from the naval hospital, Yokohama, Japan, and ordered to the "Kentucky." Surgeon G. P. Lumsden, ordered to to the "New York." Passed Assistant Surgeon M. S. Elliott, detached from the "Kentucky" and ordered to the "New York." Assistant Surgeon F. A. Asserson, detached from the "New York" and ordered to the "Kentucky." Assistant Surgeon W. E. High, detached from the "Glacier" and ordered home. Assistant Surgeon J. F. Murphy, detached from the naval station, Cavite, P. I., and ordered home.

The Berlin Tuberculosis Congress.—Great interest is felt throughout Europe in the first meeting of the International Tuberculosis Congress at Berlin last week. Astonishing progress is already recorded in conquering the deadliest malady of the human race. Thus, the English delegate reported that the death-rate in the United Kingdom in 1838 from consumption was 38 per 1,000. This has been reduced to 13, or more than 60 per cent. The delegates to the congress visited the great public sanatoriums in the pine forests, an hour's ride from Berlin. They found there not only the finest modern equipment for the cure of the disease, but what Prof. Brouardel of Paris described as an entirely novel and momentous experiment in the realm of social policy. These great institutions provide every accommodation at public expense to working-class victims of this scourge. The delegates were very much impressed and the English representative declared his intention to induce a deputation of English workmen's friendly societies to visit the sanatoriums. We print elsewhere an editorial comment on this aspect of the tuberculosis question. Germany is represented by Professors Koch, von Leyden and Fraenkel; France, by Professors Brouardel, Calmette and Nocard; Austria, by Professors von Schrotter and von Dubray; the United States, by Drs. Denison and Eager, and Great Britain, by Drs. Lillier and Theodore Williams. Count von Posadowsky-Wehner, Secretary of the Imperial Home Office, opened the conference. Papers were read reporting the progress of the work of suppressing consumption. There was also a scientific exposition, showing models of sanatoriums and improved appliances. Dr. Kayserling showed a series of pictures demonstrating the tuberculosis tendency of persons connected with art. He instanced the case of Simonetta Catania, who served as the model for Botticelli's famous "Venus," in the Berlin National Gallery. She died of consumption at the age of twenty-four. Dr. Kayserling argued that the whole Botticelli school was strongly influenced by tuberculosis. The papers read were essentially practical reports of work done. Prof. Fraenkel reviewed the development of the struggle against tuberculosis up to the time of the establishment of the International Central Committee. He said the critical struggle against tuberculosis really began with Prof. Koch's discovery of the bacillus of the disease, but even yet the subject is not fully understood. In Germany, under Prof. von Leyden's influence and direction, a system of sanatoriums had arisen for the working classes and associations had been formed. They were convinced that the patient expectorated infection, and that the closer people lived together the greater the danger of infection. Tuberculosis was a great social question. There was no doubt it was a specific infection. The strongest man might be infected. Great Britain had started the idea of hospitals for consumptives with splendid success. At the congresses held at Paris, Naples and London the idea of an international association arose, and the German Central Committee had undertaken its organization. Prof. Brouardel said that France has now twenty-five popular sanatoriums, the first object being the isolation of those afflicted with the disease. Thanks to public and private generosity, special establishments would be erected. The system of sanatoriums had entered upon a new era and every sign of progress is visible. M. Waldeck-Rousseau, when Prime Minister, had appointed a commission to inquire as to the best prophylactic measures against the disease. Mr. Hillier, on behalf of the English association, submitted four measures for the prevention of the prevention of the spread of tuberculosis. First, the prohibition of expectoration under penalties; second, systematic notification of phthisis; third, efficient ventilation and lighting in all factories and public and private buildings, and fourth the establishment of sanatoriums for tuberculous cases in early and advanced stages, and for the treatment of phthisical cases. The Belgian and Swedish delegates advocated compulsory notification of cases of phthisis. Prof. Koch reiterated his statement regarding the non-contagious character of animal tuberculosis. This is treated elsewhere in this issue.

Psychology for Teachers.—With the intention of making psychology as understood by instructors of youth at once more useful, more scientific and more intelligible, the following course is offered to the teachers of Boston and vicinity. Dr. George V. N. Dearborn, Professor of Physiology in Tufts College, will provide a series of laboratory exercises on the physiology of the nervous system, with the general intent of showing the relations of the mind and the body, and meaning to point out by laboratory methods the so-called "physical basis" of the mental process. Without a general knowledge of these bodily structures and functions, any one's notion of psychology, however profound else, is bound to be unscientific and, because founded in speculation, unsatisfactory, while to know more of the relations of body and mind is to the better understand children and youth both as recipients and as agents. A leading purpose of this course, then, will be to make its students more familiar with the common nature of the individual so far as the relations of mind and body can elucidate the matter. A second object such a course will serve comes through the acquaintance it will bring about with the most recent methods of experimental biological science, thus supporting directly one of the ideas of leading educators for raising the standard of the teaching profession. But more important than these, possibly, to the average teacher desirous of keeping up with the spirit of the times in pedagogy, would be the enlarged view and the general training in attention to technical detail which the course would inculcate. The work on these accounts will be helpful not only to those particularly interested in pschology, physiology or zoology, but it would be useful also to anyone competent to undertake it who cares for practice in the rudiments of the prevailing modern scientific method, of starting, namely, on a problem with the simple and advancing inductively to the complex. In this case there will be an opportunity for the application of this method to one of the large and interesting problems of human nature. It will be the instructor's aim to adapt the work to the actual needs of those who do it, be they quite unfamiliar with laboratories or competent experimenters. Without attempting to announce the details of the twenty exercises of the course, the general nature of the work may be foreseen from the rough outline following: After one or two introductory lectures on the basal principles of psychology from the physiologic viewpoint, the class will examine the nervous systems of several types of animals of different complexities for the purpose partly of learning how parallel is the intricacy of the life of any species with that of its nervous system. Next, study of the minute structures of nerve tissue will be undertaken with the aid of the compound microscope. The neurone, or neural unit, will here receive special attention from the psychological standpoint. The succeeding exercises will be employed in careful technical experiments on the actual functions of the nervous system as well exemplified in frogs, which, although dead, retain in their quite insensible tissues functional vitality long enough for this purpose. The remaining periods of the course will discuss such psycho-physical topics as emotion, temperament, habit, pleasure and pain, and some brief suggestion of the nature of mental fatigue and exhaustion. The course will consist, probably, of twenty exercises each about two hours long, held between nine and eleven on successive Saturday forenoons, beginning November 29, or at such other times as might better suit the students concerned. The finely arranged and equipped Laboratory of Physiology of the Tufts College Medical School will be utilized for this course; it is situated at the corner of Huntington and Rogers avenues, two blocks south of Massachusetts avenue. The fee for the course will be twenty dollars. As the number of students must necessarily be small, early application is advisable.

Obituary.—Dr. Frank E. Martindale, an old and well-known physician, died last week at his home in Hatfield Place, Port Richmond, S. I., after a long illness, aged seventy-two years. Dr. Martindale had resided in the Borough of Richmond for many years, and at one time had an extensive practice. He was once Health Officer of Port Richmond. He is survived by three daughters.

William Young, M.D., aged eighty-two, died last week at Cold Spring-on-the-Hudson of heart disease.. He was the last surviving charter member of the Academy of Medicine of New York, and was well known among the older physicians of New York County. Dr. Young was born in Corttlonone, Ireland, in 1820, and his family came to this country in 1822. In 1842 he returned to Scotland for his higher education, was graduated from the University of Glasgow, and then studied medicine in Dublin University and in Vienna. For a time after coming back to the United States, Dr. Young practised in New York city, but eventually went to Cold Spring, where his family had first settled.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, October 18.

A HIDDEN TRAGEDY—THE HEALTH OF THE KING—THE QUEEN AND HER PHYSICIAN—"DISCRETION" THE BETTER PART OF A COURT DOCTOR.

The death of Dr. Arthur Barry Blacker, announced in our medical journals a week or two ago, though of little significance to the uninitiated, was to those behind the scenes the last act of a tragedy which has hitherto been successfully hidden from the public. Dr. Blacker, who was just forty years of age, was one of the pioneers of the light-treatment in this country, and had for the last year or two held the post of Superintendent of the X-ray department in St. Thomas's Hospital. During the past year he had the singular good fortune, as it seemed, to be called in to minister to the King. This was before the abdominal crisis, which in June so nearly turned the intended coronation ceremony to a royal funeral. In previous letters reference has been made to the widespread rumor that His Majesty was the subject of cancer. He was said, on the best back-stairs authority, to be suffering from an affection of the throat similar to that which proved fatal to his imperial brother-in-law, the late Emperor Frederick of Germany, and to his own brother, the late Duke of Saxe-Coburg. This rumor grew into so solid a belief in the public mind that the court officials thought well to issue a formal denial. At the time of the operation the rumor again revived, but the seat of disease was shifted from the larynx to the intestine.

It was whispered everywhere, at dinner-tables, in clubs and other places where members of Parliament most do congregate, and even within the precincts of Buckingham Palace itself, that the alleged appendicitis was a diplomatic formula for cancer. The public—and in that term I include not merely what Tennyson called the "many-headed beast," but those whose position gives them opportunities of knowing the truth at first-hand—had so firmly made up its mind that King Edward was suffering from cancer, that another official denial was judged to be necessary. The medical journals were "authorized to state" that there was no sign or suspicion of cancer in any part of the royal person. There was not, so far as I know, any reason to doubt the perfect accuracy of this statement at the time it was made. But official statements, even if they tell the truth, seldom, if ever, tell the whole truth. I am in a position to say—and this is the first time within my knowledge that the fact has been published—that the suspicion which has existed in the public mind almost since the time the King came to the throne had a solid foundation, though the superstructure was purely fanciful. The King had a small rodent ulcer near the root of the nose, which was successfully dealt with by the X-ray treatment. This was applied by Dr. Blacker, who owed to his obscurity the honor of being chosen for the purpose. In such matters King Edward places his trust in Hebrew councilors, who brook no rival near the throne, if they can keep him away from it. Dr. Blacker cured the King in sixteen sittings. How long the cure will last remains to be seen, but at present it is complete. By a strange and sad irony of fate the physician himself fell a victim to cancer in the very moment of his success. He was attacked by epithelioma of the axilla. Amputation at the shoulder-joint was thought of, but the disease spread so rapidly that the idea of surgical intervention had to be abandoned. The end came on September 10, when the man whose skill had saved the King from a fate far more dreadful than appendicitis, passed away unwept and unhonored by those to whom he had rendered such signal service.

The Wise Man said with truth, "Put not thy trust in princes." A remarkable instance of the fickleness of court favor is afforded by the treatment meted out to Sir William Broadbent, who is not only the most eminent physician in this country, but the official head of the medical staff which has the care of the royal health. During the King's illness Sir William Broadbent's name was conspicuous only by its absence from the bulletins. The fact excited much comment at the time, all the more since Sir Thomas Barlow is a much younger man, with no special experience in the kind of disease with which he had to deal. The truth appears to be that Sir William Broadbent is out of favor because he acted like an honest man and spoke his mind. Radcliffe got into disgrace with Queen Anne because he said she had nothing the matter with her but the vapors. Sir William Broadbent incurred the displeasure of the present Queen through having had the audacity to diagnose smallpox in her sacred person. This was in the early days of the recent epidemic, and Sir William Broadbent insisted that the royal household should be revaccinated. Her Majesty took the diagnosis and the precautions recommended extremely ill, speaking of herself sarcastically as a leper, and doing all she could to discredit the physician. The royal family resent anything that tends to bring them down to the level of ordinary humanity. Hence they prefer doctors who, like Sir Francis Laking, are "discreet;" that is to say, who shut their eyes to ugly facts and are always ready to prophesy smooth things. Sir Francis Laking reminds me of the French courtier who read something to the Grand Monarque about "*the late* King of Spain." When his august master asked indignantly what that expression meant, he with delicate diplomacy answered: "*Sire, c'est un titre qu'ils prennent.*"

It was "discretion" that brought the King to the brink of the grave, from which he was saved only by the boldness of a surgeon who insisted on treating his Majesty as a man fashioned of clay like other men.

Sir Frederick Treves had great difficulties to overcome before he was allowed to have his way. The Queen—who, be it whispered, is not a person of the highest intelligence—obstinately opposed the operation, and if Sir Frederick Treves had been a man of less masterful personality she would now, in all probability, be a widow. When the real state of the case was explained to the King he at once placed himself in the hands of the surgeons, but they had a good deal of difficulty in the after-treatment, owing to his lack of self-restraint in such matters as coughing, etc. His hatred of anything that smacks of humanity in connection with himself was oddly displayed in his editing the bulletins and other announcements issued about his progress to recovery. Thus he expressed a great objection to the word "discharge," and would never allow it to appear in any of these statements.

A curious commentary on this royal weakness is supplied by the fact that the Queen was so suspicious in regard to the operation that she insisted on the contents of the abscess being brought to her for inspection—with the result that the windows of her apartments had to be kept open for some time afterwards. Falstaff speaks of "this foolish compounded clay, man;" surely the height of foolishness is reached in that particular variety of clay which bears the stamp of a crown.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

Nineteenth Annual Session, Held Oct. 20, 21, 22 and 23, 1902, in the New York Academy of Medicine.

FIRST DAY—OCTOBER 20.

At the business meeting of the first day the following officers were elected for the coming year: President, Frederick Holme Wiggin of New York; Vice-President, W. H. Thornton of Buffalo; Secretary, Guy D. Lombard of New York; Treasurer, E. H. Squibb of Brooklyn; Chairman Committee of Arrangements, S. A. Brown of New York; Chairman Committee on Legislation, E. Eliot Harris of New York; Chairman Committee on Public Health, J. Scott Wood of Brooklyn; Chairman Committee on Publication, Emil Mayer of New York; Chairman Committee on Nominations, Charles E. Quimby of New York; Chairman Committee on Library, John Shrady of New York; Delegates to A. M. A., two years, Joseph D. Bryant of New York, Charles Lester of Seneca Falls; Alternates, Parker Syms of New York, L. D. Farnham of Binghamton.

SECOND DAY—OCTOBER 21.

Pathogenesis of Eclampsia.—Dr. Frederick P. Hammond made a plea for the more systematic observation and treatment of patients during pregnancy. The affection is undoubtedly due to an accumulation of urinary toxins in the blood. The best index of this accumulation is the presence of albumin in the urine. All the investigators of the disease are agreed on this point, though it is not the albumin itself that produces the convulsive seizure, but some failure of renal elimination. When the urine becomes of deep color, with a specific gravity of 1,012 or less, it is time to suspect the onset of eclampsia. Very often the first preliminary symptom is a lancinating headache, sometimes accompanied by vertigo and disturbances of vision. If patients sometimes suffer from headache, yet show no other signs of the onset of eclampsia, then any change in the character of the headache should at once be considered suspicious. Patients should be advised to consult their physicians at once. Great care must be taken in these cases in the use of coal-tar products for lessening the headache. These substances have a tendency to destroy red blood-cells, and this adds to the patient's condition and gives rise to an amount of waste material that may fail to be eliminated by the kidneys.

Treatment During Pregnancy.—There are many symptoms apt to develop during pregnancy which resemble neurasthenia. For this the most important treatment is the proper selection of diet, outdoor air and improvement of the general health. In the morning the woman should eat freely of cereals with some fruit, but should avoid the use of meat. Red meats should be allowed only at dinner, and not even then if there are any psychical or nervous symptoms. It is from red meats that most of the extractive excitant material originates. For red meat, chicken or fish or eggs may be substituted. There should be open-air exercise every day. If necessary a definite hour should be appointed at which the woman will take this outdoor exercise. Pregnant women should be advised against the use of cold baths, as these are apt to produce kidney irritation by throwing more material than usual on the kidneys for elimination. During pregnancy, constipation is for many women a regular habit. This should be corrected, and various methods employed according to the indications. For those who suffer from heartburn and flatulence salts are the best remedy. For those liable to accumulations of fecal material in the colon cascara is the best remedy. It must be remembered that during an attack of eclampsia the patient is extremely liable to explosive reflexes. She has been compared to the strychninized frog. All external sources of irritation should then be removed as far as possible, and all manipulations should be done quietly and gently. Veratrum viride only paralyzes the muscles and in this way lessens the convulsions, so that it does not seem to be of special benefit, and it is prone to make labor more prolonged.

Bacterial Flora of the Vagina and Cervix.—Dr. William E. Swan of Saratoga Springs reviewed the literature of this subject since Döderlein's discovery in 1892 of the vaginal bacillus. Döderlein considered that this exerts a special protective function. This idea has been confirmed by others, but there are also other protective agents. Among these are the tissue fluids and leucocytes which act as phagocytes. Streptococci occur very commonly in the vagina, but usually they are not virulent. When injuries of the vaginal tract occur with consequent suppuration, the streptococci may assume a virulence they did not have. There is therefore great necessity for the exercise of care in order to avoid injuries of the genital tract. The presence of the colon bacillus in the vagina shows the necessity for the greatest cleanliness, because of the close proximity of the anus.

Soil and Bacillus.—Dr. Higgins said that there are two factors in infections of the vagina. These are the soil and the bacillus. As a rule the resistive vitality of the vaginal mucous membrane is quite sufficient to protect it against microbic invasions. The colon bacillus in particular possesses none of its pathogenic qualities when present in this region. Any disturbance of the tissues, however, lowers vitality. No force should be used in cleansing the vagina. Dr. Higgins has seen the mucous membrane made raw by too vigorous rubbing. The most important infective agent is the gonococcus, not for any pathological results it produces of itself, but because of its liability to favor secondary infection. After gonorrhea almost any other microorganisms will prove virulent for the vagina and other tissues in the genital tract, though before that they were not pathogenic.

Gynecology from a Medical Standpoint.—Dr. Mary Gage-Day of Kingston-on-the-Hudson said that it is often thought that the diseases so common among women at the present time are peculiar to our generation. This acts as a source of serious discouragement to many ailing women. The impression, however, is without foundation. The records of very old times in Egypt seem to show that there were specialists in women's diseases nearly 2,000 years before Christ. Special instruments, specula and the like, for the examination of women were discovered among the ruins of Pompeii, and though the knowledge of them was afterwards lost for many centuries, it is evident that much was known about women's diseases over 4,000 years ago. Recent investigations have shown that Indian women are not free from pelvic disease, although the contrary has often been asserted. Complications of childbirth among Indian women are nearly always fatal. The birth-mortality is very high.

Dr. Day said that it is sometimes very surprising to find even in well-informed women the densest ignorance of personal hygiene. Many of them need the most careful instruction, and this will often enable them to avoid conditions that are sources of great discomfort. The first thing the physician must do in all gynecological practice is find out the habits of life of a patient and correct everything that seems likely to be a source of disturbance of health. Careful examinations of the urine should be made, so as to know something about the metabolism and the possibility of the presence of nephritic disease. Four drugs she had found of importance in medical gynecology—iodine, ichthyol, boric acid and glycerin. Whenever there is marked tenderness ichthyol is the remedy that is most efficient. When metritis, especially of the hemorrhagic variety, is present, adrenalin employed internally in doses of ten drops three times a day has given better satisfaction than viburnum, ergot, or stypticin. After the menopause iodine and ichthyol are not well borne. Tissues are atrophic and do not react well even to the slight continuous irritation produced by these remedies. Dr. Day then uses a combination of Irish moss, glycerin, alcohol and boric acid, which gives excellent satisfaction. Lacerations are especially prone to be troublesome in the old, and must be treated with great care and as far as possible without the use of irritant drugs. Uterine displacements, as a rule, cannot be treated by means of the ordinary pessary in women beyond the menopause, but the belt-pessary should be used to save the destructive influence of pressure on atrophied tissues.

Technic of Hot-Water Injections.—Dr. J. H. Burtenshaw of New York called hot water the most important therapeutic agent in medical gynecology. Proper directions for its use are frequently neglected. The use of a small quantity of water as a vaginal injection does more harm than good. If the hand is held for two minutes in very hot water it comes out red and swollen. A ring that will slip off easily before can not be gotten off. If left for 10 or 12 minutes, however, the tissues will become shriveled, for the secondary effect of hot water is contraction of the blood-vessels. Ordinarily a hot injection taken from the toilet or the commode with a couple of quarts of water produces congestion that adds to the congestion already present. If two or three gallons of hot water are employed and the patient is advised to rest from half to three-quarters of an hour afterwards, great benefit will be derived from its use.

Necessity for Exact Diagnosis.—Dr. J. Riddle Goffe of New York said that at times an injudicious examination is made when the woman first comes under observation; a false diagnosis is made and all the after-treatment is directed under an erroneous impression. A recent case gives an example. A young married woman complaining of excessive menstruation was sent to him with the diagnosis retroverted uterus and tumor. She had not slept since the announcement was made to her. She proved to have nothing more than some metritis, and the uterus was in normal position. There are two schools of gynecology; one is exclusively operative, and its members confess that their offices are only for examinations preliminary to operation; the other school believes that every woman should be given the benefit of local treatment and that on the results must depend the question of operation. Fortunately the latter school has still many adherents and seems to be growing in numbers.

Intermittent Injections.—Dr. Richard H. Gibbons of Scranton, Pa., said that the use of hot water—the vaginal douche—was introduced by Emmet. Emmet always insisted that one of the advantages was the use of the interrupted douche as given by the old Davidson syringe. He clung very tenaciously to the theory of special benefit from the repeated impact of the water upon the cervix. He could always tell when a douche had been given some other way, and though his residents sometimes tried to catch the master in the matter they never succeeded, and he would announce that directions were not being carried out.

Adrenalin and Cocaine.—Dr. Hermann Mynter said that he has used adrenalin in combination with cocaine, in order to prevent hemorrhage during operations upon the vagina, and had found the combination excellent. Small operations can be made practically bloodless.

Advice in Fibroid Tumor.—Dr. J. Riddle Goffe of New York said that the question of what advice the physician should give to a woman suffering from fibroid tumor of the uterus is rather difficult to answer. Fibroid tumors may cause serious complications in pregnancy; they sometimes produce obstruction of the bowel; they may be a source of abortion. When they degenerate into calcified masses they may produce inflammatory lesions of the intestines, or may lead to cancerous degeneration. At times edema occurs, and even sudden death may result. Polypoid tumors complicating pregnancy are often the cause of serious results. Histories of about 40 of them have been recently collected from the literature. In six cases gangrenous degeneration set in, and many of them caused complicated labors. Such things as breech-labors and others requiring version are noted. In eight cases septicemia resulted; there was death from sepsis in three cases; in three from peritonitis. At times, as the result of the presence of fibroid tumors, pyosalpinx and ovarian abscess or sepsis from a degenerative process may result. At times fibroid tumors disappear spontaneously. This happens so rarely as to be a medical curiosity. The use of electricity for the treatment of fibroid tumors has been a source of disappointment. There have been some reported disappearances, but these have been no more frequent than might have occurred spontaneously. As the result of electrical treatment, subsequent operation is apt to be complicated by dense adhesions. At times also pus-pockets have been noted, and these make the ultimate prognosis more serious. Curettement gives temporary relief, but frequent repetition of this is not without danger, because of the encroachment of the tumor on the uterus and the production of septic complications.

Different Ages.—In women who are past the menopause and in whom tumors still continue to increase in size the best remedy is entire removal of the uterus and the tumor. If the tumor is discovered during pregnancy the pregnancy may be interrupted, but a better procedure is the removal of the tumor, leaving the contents of the uterus untouched. This has been accomplished in a number of cases, though the woman must accept the danger of miscarriage that inevitably goes with it. At times it is well to allow the pregnancy to proceed with the understanding that a Cesarean section is to be performed at term. This operation will not be so frequently needed as is thought. Dr. Goffe has attended many negroes with fibroid tumors and yet has never had to perform a Cesarean operation on any of them. The only complication has been a delay of the expression of the placenta. For unmarried women carrying a small fibroid tumor the advice used to be to wait, but in the meantime not to marry. Such advice is immoral. It is wanton cruelty besides, for there is no justification for it. A small tumor may be removed through the vagina, thus avoiding the unsightly scar on the abdomen. If carefully done by myomectomy it will leave a perfectly functionating uterus.

Fibroids in Pregnancy.—Dr. Goffe has had an experience in which fibroid tumor was caught under the promontory of the sacrum and could not be raised higher. He suggested that a Cesarean operation might be done at term, since both husband and wife were anxious to have a child. The labor, however, terminated naturally. With an expert operator a Cesarean operation at full term is safer than a myomectomy during gestation.

More Favorable Prognosis.—Dr. Ferguson of Troy said that while a myomectomy should be done in those desirous of children, too much confidence must not be expressed. Dissection of uteri containing fibroid tumors often showed numerous foci of myomatous tissues. Dr. Ferguson thought that fibroid tumors disappear more frequently than has been supposed. At least they cease absolutely to give symptoms and produce no pathological condition in the pelvis.

Dr. Wiggin thought that fibroid tumors not infrequently degenerate into carcinomata. This is especially true after calcification has taken place, when the irritation set up in surrounding tissues seems to favor malignancy. Even large fibroid tumors may be removed by myomectomy with excellent results. Dr. Wiggin has removed in this way tumors weighing 16 and 20 pounds respectively. The operation may be done very rapidly, as in a recent patient who seemed too weak for hysterectomy.

Repair of Lacerations of the Pelvic Floor.—Dr. J. H. Burtenshaw of New York said that while it was formerly taught that the maintenance of the normal positions of the organs of the pelvis depends on the integrity of the so-called perineal body, it is now generally conceded that its function is solely to give needed support to the curve of the rectum during the expression of intra-abdominal force. Rupture of this body may occur, even through the anal sphincter, yet pelvic equilibrium will not be disturbed if the muscles composing the pelvic floor remain intact. By means of drawings the speaker described the attachments of the levator-ani muscle and its fascia, laying particular stress on the important rôle of the latter in imparting strength to the pelvic floor and preventing prolapse. He questioned if the majority of the modern operations of perineorrhaphy and colpoperineorrhaphy actually restore the pelvic floor to its normal condition. As the denudation extends only through the mucous membrane of the vaginal wall, the muscles are only backed up against themselves, in which position they serve to reduce the lumen of the canal, partially close the orifice, and restore the curves of the vagina and rectum. While admitting that an operation of this kind apparently fulfils all indications, he claimed that here, as elsewhere in the body, if a muscular rent is to be closed the edges of the muscle must be freshened and closely approximated by sutures. He said that many operators have appreciated this defect in posterior-wall plastic surgery, and have evolved special methods for the suturing of these superficially denuded areas, but that in each case the object is not attained because the underlying muscles are not directly approximated. He referred to Emmet as being the pioneer in correctly attributing to the pelvic floor its proper function, but claimed that the well-known operation called by his name does not accomplish all that its author claims for it, because the levator and its fasciæ are bound to retract as soon as the retaining sutures are removed. His conclusions were as follows: (1) That the rôle of the pelvic floor in sustaining the pelvic viscera being acknowledged, a laceration of the muscles and fascia composing the most important section of the floor should be repaired in order to restore the natural equilibrium of the pelvis, and (2) that while a majority of the plastic operations on the vaginal wall restore the natural curves of the vagina and rectum and reduce the size of the vaginal outlet, to restore the pelvic floor to a normal condition approximation and suturing of the edges of the levator-ani muscle and its fascia must be imperative.

Defect of Through-and-Through Sutures.—Dr. Ferguson of Troy said that the use of through-and-through sutures for repairing a vaginal defect is always a mistake. They pull into circles and give occasion for the formation of scar tissue proverbially not strong. Bring the levator-ani muscle out of the sulci into which it has retired. Without this the result is only a skin-perineum, not at all efficient for holding up the pelvic structures. Bring the ends of the muscles together separately, then skin as you will, and the result will be not only apparent but actual repair.

Indefinite Signification of Word "Colds."—Dr. James J. Walsh of New York said that there is probably no word in medicine more used and less understood than the word cold. It is popularly thought that the disease is due to changes of temperature or to severe cold weather. As a matter of fact those who lived in high dry climates, as in Switzerland, do not contract colds as frequently as their compatriots in the lower regions of the same country. Our Canadian neighbors are not so liable to colds as those who live in a moist changeable climate, especially in crowded centers of population. Arctic explorers living through the long winter at a temperature 30 degrees below zero, do not suffer from catarrhal colds as frequently as they would in city life at home, and Nansen, after spending two years at the farthest north without once having a cold, came back to be confined to bed from this annoying affection within a week after his return. Erasmus Darwin pointed out more than 100 years ago that if the surface of an animal's body is kept cold for a prolonged period there is a loss of tone in the blood-vessels, and consequent dilatation, and the circulation becomes very much slower. For some time after warmth is restored the paralytic dilatation of the blood-vessels remains, and there is passive congestion. This disturbance in the skin leads to corresponding disturbances in underlying organs, because of the anatomical relations between the parts. Head pointed out that when affections of the internal organs exist certain skin-areas become more sensitive than usual. It is over these areas that counter-irritation must be made for the organs in question. When the counter-irritating effect of prolonged cold or of a draft is exerted upon a skin-area, then the vasomotor condition of the underlying sympathetically connected organ is disturbed. These two factors, circulation and vasomotor neurosis, are the basis of the etiology of cold.

Exciting Causes.—These factors, however, are only predisposing causes. Colds are usually ushered in by a chill, preceded by an incubation period. These symptoms have come to be recognized as an index of the presence of toxins in the circulation, and in the great majority of cases the toxins of bacteria. Other manifestations, as the catarrhal condition that sometimes becomes a more than mucoserous secretion, or may even go on to suppuration as in tonsilitis, show that microbes are at work. It seems clear that in most cases colds are a microbic affection. This is confirmed by the fact that they sometimes run through households with a distinct contagiousness. Colds in the head would seem to be due to the lodgment of various micro-organisms on the nasal mucous membrane predisposed to allow the invasion by the dry, heated air of city houses, which is constant source of irritation. Microbes are particularly plentiful in dust-laden rooms, in theaters, crowded meeting-places, packed street-cars and the like. In such places the affection is frequently acquired. The going out into the cold air from one of these heated places causes a blanching of the mucous membranes of the nose, and bacteria that have been held on the moist surfaces are free to be breathed deeper into the respiratory passages, or find in the anemic condition itself a moment of lowered resistive vitality, when multiplication becomes easy.

Prophylaxis of Colds.—The prophylaxis of colds must consist then of care with regard to visits to dust-laden atmospheres, if persons are in delicate condition and are liable to colds. This is especially true for the tuberculous and for children. Besides, the immediate exit into the cold outer air from crowded places, and even from ordinary dwellings, must be avoided. There should be, as there is in the French theaters, a lingering for a while in the cooler air of the foyer and conversation with friends, in order to accustom the nasal mucous membrane to the change of temperature about to come, which often equals 40 or 50 degrees. This same precaution seems important with regard to the hallways of houses, so as to avoid too sudden a revulsion of nervous energy in the very delicate mechanism of the nasal mucous membrane. The main purpose of this membrane is to warm the air that is admitted to the lungs, and since at times the outer air is perhaps 80 degrees removed from body-heat, some idea can be formed of the difficulty of the problem.

Symptomatology of Colds.—Dr. George F. Cott of Buffalo said that so-called colds can perhaps be best defined as occasional catarrhal symptoms of an underlying constitutional condition that occurs during the colder weather. Colds that involve the nose and give the stuffy feelings of which patients complain are often the result and the manifestation of some local disturbance of the internasal structures. Not infrequently, however, it will be found that the rheumatic diathesis, or some digestive disturbance, or some tendency to constipation which has been at the moment exaggerated by neglect, is the real basis of the affection. If colds were considered more from the standpoint of the general health of the individual patient who presents himself, there would be better and more immediate success in their treatment. The most important element in the therapeutics of cold is undoubtedly this fact so often lost sight of.

Treatment of Colds.—Dr. A. Alexander Smith said that it is clear that we do not know exactly what is meant by the word cold. Ordinarily, it is a stuffing-up of the nasal mucous membrane, which gives a sense of fulness in the head, with some chilly feelings and an excess of secretion from the nose. The condition is generally accompanied by some constitutional disturbance. If there is fever above 100.2° F., Dr. Smith considers that patients should be kept in bed for a day or two until the fever comes down, for in this way time will eventually be saved and the progress of the case be much more satisfactory. Undoubtedly cold bathing and especially the cold ablution of the head and neck acts as a preventive of cold. Another means of protection is by increasing the resistive power. Many delicate persons are undoubtedly protected by the administration of cod-liver oil. Disturbances of digestion are apt to increase susceptibility to cold to a marked degree. The rule must be to increase the resisting power and get rid as far as possible of disturbances of the general health, if the usual crop of colds in winter is not to be harvested.

Use of Drugs.—The old custom of giving calomel and opium and quinine is an excellent practice. Ten grains of Dover's powder or Tully's powder, with five grains of quinine in the evening, followed the next morning by an active cathartic pill, is the best possible beginning of the treatment of colds. The familiar hot mustard foot-bath of domestic tradition is undoubtedly beneficial. The rhinitis tablets that are on the market, containing quinine and belladonna, are efficient if used during the first few hours, but as a rule they are given in too large doses. The constitutional condition is important in colds, and if the rheumatic diathesis be present alkalis should be prescribed. The salicylic acid compounds also are of service in relieving the symptoms and shortening the course of the affection, provided they are well borne by the stomach. The inhalation of camphor vapor, has a distinct value in adding to the comfort of the patient. If the skin is dry and hot, with pains and stiffness of the muscles, certain of the coal-tar products, especially phenacetin, should be employed. It is a common experience, however, that these remedies give a certain relief of symptoms, and then produce a depressant effect, from which the patient does not react well in throwing off the cold. While the temptation is strong then to give the patient the first measure of relief they afford, it is well not to use them except in feverish individuals who must be made able to continue their occupation for some special reason. A Turkish bath, if taken at the very beginning of a cold, may be useful in shortening the course of the affection. But if two or three days have passed before it is taken it does not give relief, and may only afford an opportunity for recrudescence. The use of saline solutions for the cleansing of the nose, whether employed in the form of a douche or snuffed up from the hand, undoubtedly affords a certain relief of symptoms, but aurists have insisted so much in recent years on the danger of producing complications in the Eustachian tube by this means that it is better to forego them. For throat complications and cases in which the pulse is not very vigorous tincture of iron in 20 minim doses several times a day is an excellent remedy. For tendencies to the recurrence of colds cod-liver oil is the best remedy. It is especially useful in delicate children. When, in spite of careful hygienic living and attention to the digestion and any other functions that may seem liable to be disordered, colds are still frequent, a change of climate should be advised, for colds are undoubtedly a drain upon the system.

Local Treatment.—Dr. Thornton of Buffalo said that the use of certain local applications is of service, not only for the relief of symptoms but also in shortening the course of a cold. The ordinary alkaline solutions employed in nose-work aid in the removal of secretions and lessen the turgescence of the nasal mucous membrane. For more lasting effects, when the secretions are not so free, oil sprays made of dilute solutions of thymol or eucalyptol are not only grateful to the patient but efficient for symptomatic relief.

Dry Air and Colds.—Dr. Freudenthal said that not all colds are infectious, but that undoubtedly the modern custom in the heating of houses is responsible for the irritable condition of mucous membranes that predisposes to colds. Often the humidity of a modern heated house will not be more than 20 to 30 per cent. when it should be over 60 per cent. Under these circumstances the air constantly takes up moisture from the mucous membranes and leaves them in a dry, susceptible condition.

Dr. Einhorn said that not all the affections sometimes considered to be due to bacteria are really to be classed as infectious. Since Nansen has been mentioned in connection with the subject, it is well to remember that while at the extreme north he acquired acute articular rheumatism. This is sometimes said to be a bacterial disease, and yet it is well known that bacteria are very rare in the arctic regions, and it would be surprising to think of the specific microbe of rheumatism existing at the farthest north.

Various Remedies for Colds.—Dr. Purdy of New York said that the remedy needed for colds should be at once diuretic, diaphoretic and laxative. For this, spirits of mindererus with some laxative, is the best. Most colds can be cured in three days with this preparation.

Dr. Acker said that colds are nearly always ushered in by sluggish bowels and acid stomachs. For these conditions he gives eight to ten grains of Dover's powder, ten grains of nitrate of potash, and five grains of quinine. Patients are better in the morning and the cold is aborted.

Dr. Murdoch said that for a single remedy the fluid extract of gelsemium is the most generally effective, and acts almost as a specific.

Dr. Strattenham said that colds must be treated according to the individual. If the rheumatic diathesis exists the salicylates must be used; if anemia be present one of the preparations of iron is most effective.

Dr. Brownell said that the underlying cause of colds is frequently some pathological condition of the nose or throat. The patient's constitutional condition must be improved and then the local affection treated carefully.

Dr. Bayley said that the best single remedy for a cold is eucalyptol given in four or five drop doses till the ears ring. If given sufficiently early in the affection this may break up a cold in 24 to 48 hours.

Individual Treatment and Diathesis.—In closing the discussion, Dr. Walsh said that the principal item with regard to the management of colds must be their individual treatment. A cold is not an entity, but a heterogeneous combination of symptoms, due to special conditions in each case. Nasal colds usually have a basis of some pathological condition in the nose. Much has been said of an underlying diathesis, and especially of the rheumatic diathesis, and its effect upon colds. Just what is the rheumatic diathesis we do not know. A quarter of a century ago the text-books and the old professors spoke of the hemorrhoidal diathesis. Patients who had suffered long from piles were supposed to be so constituted as to suffer from them. Physicians were even fearful of stopping the flow of blood from piles, and do harm by producing congestion. Fortunately the profession has gotten away at least from this rampant manifestation of diathetic theory.

It is to be hoped that the same thing will occur with regard to the rheumatic diathesis. No one now admits that the salicylates are a specific for rheumatism. They are only coal-tar products a little less depressant than antipyrin or acetanelid. Why should these imaginary specifics be recommended for an imaginary diathesis?

The Pancreas in General Medicine.—Dr. Alfred Stengel of Philadelphia reviewed recent progress with regard to the diagnosis and treatment of pancreatic conditions. The pancreatic fluid is not essential to fat-absorption, and bile may replace its action almost wholly. The presence of fatty diarrhea is by no means necessary then for the diagnosis of pancreatic conditions. In fact, the absence of fatty diarrhea is more significant than its presence, the latter pointing rather to some biliary disturbance. The proteolytic function of the pancreas gives no better indication. Rapid emaciation does not always take place, though sometimes noted, and reduction in weight may mean reduction in fat-absorption. There is a certain amount of failure of absorption of albumin and perhaps this will yet prove to be a prominent symptom. The relation of pancreas to glycosuria is the most interesting feature of the recent progress of our knowledge. At first degenerations of the pancreas were thought to be merely coincident to glycosuria, or secondary to the wasting it produced. Total removal in certain animals, however, showed that glycosuria followed absence of the gland.

If a certain amount of the pancreas were left, however, no sugar occurred in the urine, unless degeneration of the pancreatic remnant occurred. This latter fact accounted for certain anomalous results. It seems probable then that the pancreas secretes a ferment for the destruction of sugar in the organism, and when this is absent, there is an accumulation of sugar. In a number of cases of diabetes what were supposed to be normal pancreases were found at autopsy. As a matter of fact only special portions of the glands are degenerated in pancreatic diabetes. These are the so-called islands of Langerhans, collections of cells which have no connection with the secretory system of the pancreas, but are arranged as if they were blood or ductless glands. In a recent case Dr. Stengel had a special example of the degeneration of this portion of the pancreas. The patient when admitted was apparently suffering from uremic coma. Large amounts of albumin were to be found in the urine, but no sugar. There was a history of diabetes, however, and after 24 hours sugar and acetone and diacetic acid appeared in the urine. The patient died and at the autopsy the pancreas seemed normal to the naked eye. There were, however, on microscopical examination, hyalin degeneration and necrosis of the islands of Langerhans.

Acute Hemorrhagic Pancreatitis.—In recent years has come an idea of recognizing acute pancreatitis. When there is deep-seated pain in the upper zone of the abdomen, accompanied by profound depression and collapse, the patient may be suffering from perforated ulcer of the stomach or duodenum, or from angina pectoris, or from certain nervous diseases, but the affection present may be acute hemorrhagic pancreatitis. This is especially likely to be the case if the pain radiates to the left shoulder and the patient can feel that its seat is deep in the abdomen. Pancreatic calculi have now been diagnosed in five cases, and the possibility of their presence must not be forgotten. The principal symptoms are repeated attacks of deep-seated colic, of which one patient said that she could not tell whether it was nearer the back or the front, with radiation of the pain to the left shoulder and no jaundice.

Metabolism of Myxedema.—Dr. C. N. B. Camac of New York detailed the study of the metabolism of a case of myxedema, before and after administration of thyroid extract. Contrary to the usual experience, it was found that though the patient decreased in weight there was no greater destruction of proteid material than before the administration of the thyroid extract. While the patient improved very materially, in fact considered herself cured, the process by which this was brought about is not a simple reduction of proteid metabolism, something more mysterious. Further studies are needed to make clear in just what the change in metabolism consists, and what was accomplished in the present case. The physiological chemistry of this case, as studied by Drs. Wolff and Camac, shows that there is an important field for metabolic studies in this and cognate affections.

Present Position of Gall-Stone Surgery.—Dr. William Wotkyns Seymour of Troy, N. Y., said that it is now a quarter of a century since Sims first operated for gall-stone. It is time now to study out the conclusions. Recent success in gall-stone surgery has been so satisfactory that there is temptation to say that every case should be operated upon. This is to go too far, but whenever there is a continuance of the symptoms, or any disturbance of the general health, or repeated attacks, operation is the safest procedure for the patient. The pernicious idea that there is any possible solution of gall-stones by means of internal medication must be removed. It has given hecatombs of victims. An attack of gall-stone colic may not recur for many years, and this gives the illusory idea of medical relief. Dr. Seymour has seen one case with 18 years of interval between attacks. In another recent case a physician boasted that he had an attack of gall-stone colic nine years ago, and that by taking soda every day he had dissolved them. Just six weeks later he died from perforation of biliary passages, and 153 stones were found in his gall-bladder. Pain occurs only when there has been considerable inflammation, and it is due to the inflammatory process and not to the movement of the stones. Hence many cases escaped this symptom entirely, and the stones are found at autopsy. Deep jaundice is not necessarily connected with gall-stones. As a rule it occurs rather in cancer. In eight of Kehr's cases jaundice was absent. Tait suggested the opening of the gall-bladder and stitching it to the wall. With this operation Kehr and Mayo Robson have had two per cent. of mortality in a large number of cases. Until within a few years the custom was to crush stones in the common duct by means of the fingers or padded forceps. Marcy incised the common duct and showed that drainage of the duct was possible. The attachment of the gall-bladder to the abdominal walls after the operation is not a source of special discomfort, even later in life, when the scar tissue might be expected to hamper movements. At times during severe coughing some strain may be put upon the attachment, as Dr. Seymour has had opportunity to note in his own person.

Degeneration to Malignancy.—Dr. Richard H. Gibbons of Scranton, Pa., said that the presence of gall-stones undoubtedly leads to scars which are irritative and may form a nucleus for cancerous degeneration of tissues. Early operation therefore should be done before inflammatory conditions have caused the formation of adhesions and at a time when radical operations are possible.

Dr. Seymour, in closing the discussion, said that the frittering away of time in gall-stone cases is often due to the profession. Patients would be willing to be operated upon if told distinctly that it was the better course, as it undoubtedly is, especially if the operation can be performed before the internal condition has become too complicated.

Indications for Nephropexy.—Dr. Augustin H. Goelet of New York read a series of abstracts from letters of distinguished surgical authorities who consider nephropexy indicated in many cases. Dr. Kelly of Baltimore said that it is now one of his commonest operations, and he performs it whenever there are attacks of intermittent pain and the upper pole of the kidney is palpable through the abdominal walls. Dr. Noble of Philadelphia said that often the symptoms supposed to be due to movable kidney are neurotic, and what the patient needs is a rest-cure. When there are local symptoms with pain and sense of weight, then the kidney should be fastened in place. Dr. Morris of London said that whenever there are renal crises immediate nephropexy should be advised. Dr. Goelet himself is of the opinion that even when corsets or other appliances will hold the kidney in place and there may be as a consequence no discomfort, the movability of the kidney may lead to degeneration of the kidney itself, or may by pressure upon sensitive organs produce pathological conditions. To his mind pads and bandages do more harm than good.

Non-operative Treatment of Movable Kidney.—Dr. A. E. Gallant of New York said that when movable kidney is accompanied by enteroptosis or splanchnoptosis it is useless to fasten up one of the prolapsed organs, since all cannot be operated on. He has been studying the corset for nine years and is sure that it can be so applied that it is impossible for the kidney to get out of place. As a rule the neurotic symptoms are not due to the misplaced kidney, but to the general nervous condition.

Dr. Parker Syms said that many cases of floating kidney do not need to be operated upon. Operations in neurotic cases where the floating kidney is not a direct etiological factor do harm rather than good. At times, however, floating kidneys are directly causative of certain digestive disturbances and painful conditions in the abdomen, and in these cases Dr. Syms has done nephropexy with satisfactory results.

Exaggerated Opinion of Floating Kidney.—Dr. Einhorn considers that many patients have an exaggerated opinion as to the symptoms produced by floating kidney. He has seen very many cases but does not consider that disease of the kidney itself has ever developed as the result of movable kidney. Accompanying floating kidney there is nearly always floating colon, as well as floating stomach and floating liver. There is even a floating spleen. To be logical one should operate on all of these; operation on the kidney alone will not cure the patient. Nutritive and hygienic measures, especially with attention to the diet and the digestive organs, will give excellent results without operation, and operations often fail to bring any relief. Besides, even in the best hands there is two per cent. of mortality of nephropexy, and that must always be considered.

Obesity and Sexuality.—Dr. Heinrich Stern of New York considered the relations between asexualization or the non-use of the sexual organs and obesity. Eunuchs grow stout, and women usually grow fat after the menopause. Men late in life are also apt to take on weight; so there seems to be some connection between this and improcreance. Not all women, however, grow stout after the menopause, and in certain statistics less than one-half of them have increased in weight. Breeders of fowls and cattle know that animals fed richly, especially if kept in the dark, grow stout rapidly. Absence of sunlight seems to decrease metabolism. The home-keeping that is so common among elderly men and women seems to have something to do with their taking on weight. It is probable, however, that the ovaries supply some internal secretion that causes more active metabolism in women before the change of life.

Idiopathic Brain Abscess.—Dr. Hermonn C. Gordinier of Troy, N. Y., described a patient who suffered from brain abscess with focal symptoms, which was diagnosed as brain tumor. The patient had no family or personal history that could lead to a diagnosis of tumor and had had no venereal disease. He was taken with severe unilateral convulsions, which lasted for some time and then spread to the whole of the body and were accompanied by loss of consciousness. He was well for four weeks and then had another attack. Two weeks later there was still another, always beginning on the left side. In the interval there was no numbness in the limbs. After the third attack, however, the left arm was awkward and weak. When he was admitted to the hospital his left knee-jerk was increased, ankle-clonus was present, the Babinski reflex was present on the left side, while the reflexes on the right were normal. The patient was able to recognize all objects, though his cerebration was somewhat slower than normal. There was no albumin, sugar or pus in his urine. When the skull was opened nothing abnormal was noted; there was no bulging, and the only thing unusual was an area that did not pulsate. This was explored with an aspirating-needle, yet nothing was found. The skull was closed, and the patient came out of the operation feeling somewhat better. There was no headache and were no unusual symptoms. The day after the operation, however, fever set in, considerable headache was complained of, and the convulsions recurred and the patient died. At the autopsy an abscess was found just beneath the cortex of the middle third of the ascending frontal convolution, extending across the precentral lobule to the bases of the first and second frontal convolution. Had a needle been put in at a number of places this abscess would undoubtedly have been found. The interesting fact about the case is the absence of fever until just before death and the complete absence of optic neuritis, coma or drowsiness. A microbe was found in the pus, but it could not be recognized owing to the changes that had taken place in it from having been in the hardening fluid for so long a time.

Melancholia Agitans.—Dr. W. E. Douglas of Middletown read a paper describing a case of this symptom-complex. There was absolute restlessness, so that sometimes for days together she would turn over in bed more than 60 times an hour. Her delusions were vehement and kept her in a constant state of mental excitement. It is important not to confound the affection with mania, which it resembles somewhat because of the restlessness. The delusions, however, are distinctly melancholic. Eternal damnation, everlasting disgrace, utter perversion were all her thoughts. At times she seemed to be benefited by tincture of gelsemium. Her bowels were regulated and careful diet insisted upon. She died, however, from exhaustion.

Idiopathic Atrophy of the Skin.—Dr. Will R. Abrahams of New York presented a case of this rare disease, of which not more than a dozen cases have been reported all together. The patient is now fifty-eight years of age and denies specific history. At thirteen he suffered from eczema on the feet and ankles, and after this some small ulcers developed on the leg. Later there was marked hyperemia of the toes and dorsum of the foot. This gradually became violaceous in color and the skin became thin and papery. On the left leg, where the process was the worst, large painful ulcers resulted, and as a consequence there are some patches of hard cicatricial tissue that appeared to be similar to scleroderma. The general feeling of the skin is that of tissue-paper, or, as an observer said, crumpled-up cigarette paper. The limbs are cold, there is absence of sweat, absence of goose-skin on exposure to cold, and as the man grows older the atrophic process is spreading faster. Within the last year it has advanced several inches upward on the buttock.

Dermatitis Atrophicans.—Dr. William S. Gottheil of New York described the pathological conditions found in the Dr. Abrahams case. A portion of skin was removed from the buttock where the atrophic process was comparatively recent. This showed an absence of all fat-tissue, the presence of but few scattered sweat-glands, of very few hair-bulbs, and an atrophy of all the layers of the skin. The papillary layer looks crushed down and blended together. The important observation is the finding around the blood-vessels of plasma-cells and all the phenomena of inflammatory action. The disease is evidently a chronic inflammation of the skin, as some other observers have announced, though not all are agreed as to this. The best name for it then would be dermatitis atrophicans, and not idiopathic atrophy of the skin.

Unrecognized Toxic Insanity.—Dr. T. D. Crothers of Hartford, Conn., said that there are many moral lapses supposed to be due to perversions of the moral sense which are really due to various toxic conditions. Many professional and business men use drugs and alcohol to excess beyond even the knowledge of their nearest friends at times. There are moral lapses without doctor's certificates. Such people are apt to be queer, capricious, of very uneven disposition from day to day. They are cranks, extremists, paranoiacs. At times they are leaders in good work, and their lapses are considered to be backslidings. As a consequence of their varying mental dispositions, whether under the influence of a drug or without it, they are apt to be unreliable. There is a steady decline of physical and mental vigor, and patients are apt to become political intriguers, with little plots and plans, and to be very excitable under irritation. Such conditions are unrecognized except in later stages. It would be a wise extension of psychiatry, however, if these cases were properly classified.

THIRD DAY—OCTOBER 22.

Strangulated Hernia at Twenty-seven Days of Age.—Dr. L. W. B. Reed described a case of strangulated hernia in a child of twenty-seven days, followed by successful operation and recovery. This is the youngest case on record. There have been over 100 cases of children under one year of age reported for operation for strangulated hernia, and a prognosis of the operation depends on the length of time that the strangulation has been allowed to continue and on the damage that has been done to the tissues by taxis. No operator need be afraid to take these cases in the ordinary surgical way, and no physician is justified in delaying recourse to surgery until the prognosis is bad.

Local Anesthesia in the Radical Cure of Hernia.—Dr. J. A. Bodine of New York read a paper on this subject in which he insisted especially on the facility with which operation for the radical cure of inguinal hernia could be done under local anesthesia, and on the encouragement that the adoption of this procedure would give to many patients who now hesitate to undergo operation from dread of general anesthesia. Five per cent. of the population are said to be ruptured, and many lives would be saved if these hernias could be operated upon before serious complications take place. Not more than one-half grain of cocaine need be employed, if it is only judiciously distributed and properly used.

Infiltration of Nerves.—Three nerves are in the neighborhood of the field of operation for the radical cure of inguinal hernia, the hypogastric branch of the iliohypogastric, which runs from the iliac crest inwards beneath the aponeurosis of the internal oblique muscle, the inguinal branch of the ilio-inguinal nerve, and the genital branch of the genitocrural nerve. The nerves are mentioned in the order in which they are liable to give pain. The two latter branches are sometimes absent or difficult to find. There is a white fibrous cord, a remnant of the fetal peritoneum, which is sometimes found running along the front of the hernial covering, and this should not be taken for a nerve. Each of the nerve-sheets should be infiltrated with a drop of cocaine solution. For this the strength need not be more than .1 of 1 per cent. The important feature is the proper infiltration of the skin before the incision is made. This should be done by inserting the needle of the hypodermic syringe just beneath the upper layer of epithelium and injecting a drop or two. This raises a wheel. The line of the incision should then be followed down, injecting a drop at each successive point until the site of the incision is all infiltrated. There is then a pause of a few minutes to allow the cocaine to act. After this the incision can be made painlessly. It must not be carried down further, however, than the lateral end of the suprapubic skin-fold. An inch lower than this six to 13 bleeding-points will have to be ligated, and these will each give acute twinges of pain at the very beginning of the operation, and will therefore demoralize the patient. After the skin has been penetrated, if only the iliohypogastric nerve has been infiltrated some cocaine should be injected into the conjoined tendon. The cord should not be lifted up during the operation on a piece of gauze, as is sometimes the custom, but a strand of catgut should be employed as an elevator for it. Besides, the cord may become twisted on the gauze, and if some inflammatory exudation occurs the structures of it may become adherent in such a way as to lead to atrophy after the operation is over. The cocaine solution should always be made perfectly fresh, and the easiest way to be sure of its strength is to dissolve a tablet of one grain of cocaine in two drams of water. This gives approximately a one per cent. solution, which can be easily diluted to a quarter or .1 of 1 per cent. solution. The cocaine, if kept, develops a fungus and is no longer sterile. Even severe operations may be accomplished by local anesthesia. Dr. Bodine has done five strangulated hernias, and in one case 16 to 18 inches of intestine were handled.

Dr. John A. Wyeth of New York said that he usually employed local anesthesia for operations in simple hernia. Nerves that crossed the field of operation, and especially the iliohypogastric, are always infiltrated. If other branches of nerves cannot be found infiltration is done in their neighborhood. For difficult herniæ he considers that general anesthesia is better. The sterility of the cocaine solutions is extremely important. They must be made fresh for every operation. Not a single case of suppuration has occurred among all the patients operated upon by this method at the Polyclinic Hospital. Operators should not be discouraged by some complaints of pain on the part of patients at their first operations, as the method requires experience before it can be applied perfectly.

Old Difficult Herniæ.—Dr. Ferguson of Troy, N. Y., said that the use of local anesthesia is suitable for simple forms of hernia, but for old and difficult cases in which hernia has been long irreplaceable it is a kindness to the patient to give a general anesthetic. Very few patients will allow the use of the extreme Trendelenburg position, which is sometimes necessary in these cases, nor will they permit the excision of the omentum, which is also sometimes necessary.

Dr. Lyle said that he prefers to use a one-half of 1 per cent. solution for skin-infiltration. If the quarter of 1 per cent. solution is used and the operation takes some time, there is apt to be some sensitiveness of the skin when the sutures are being put in for wound-closure. As morphine is a perfect physiological antidote to cocaine, there is no danger in giving something more than one-half a grain of cocaine, and Dr. Lyle has not feared to give one grain to 1½ grains. If any symptoms are noted the morphine is at hand and can be used to counteract them. Less of the solution of cocaine is needed if it is used warm. No nerve should be cut during the course of the operation, and a primary union should be obtained as far as possible, so that the tissues shall be brought together without overstretching and without having to pull stitches too tight.

Dr. Ochsner of Chicago said that personally he had had no experience with local anesthesia in operations for the radical cure of hernia, but he was so much impressed by Dr. Bodine's paper that he would have some before long.

Dr. Harvey of Troy said that in cases of strangulated hernia where the patient is very low general anesthesia may prove very depressing, and the operation can be done with better results under local anesthesia.

Omental Traction and Shock.—Dr. Richard H. Gibbons of Scranton, Pa., said that if the omentum is pulled upon in such a way as to make tense its visceral attachments shock is sure to result. Where the omentum is adherent it must be detached gently and never by lifting it up so as to make both ends of it tense. This is an important rule, as any surgeon knows who has had a patient collapse as the result of this ill-directed omental traction.

Dr. Gallant of New York said that when properly employed one drop of cocaine will do the work for which some operators use 10. The solution does not need to be spread laterally, but should be put just beneath the upper layer of cells of the skin. If the cocaine solution is slightly acid no fungus develops in it, nor does it change if exposed to the light, but is effective for a long while.

In closing the discussion, Dr. Bodine said that pulling upon the peritoneum or omentum always causes intense pain and should be avoided. At the beginning of an operation care should be taken not to disturb the patient's mind and not to inflict any pain. "Do not say 'hand me a knife,' or a ten per cent. solution of cocaine will not suffice to make the incision painless.

Hot-Water Injections in Cavernous Angioma.—Dr. John A. Wyeth presented a case of large cavernous angioma of the back, most of which had been obliterated by means of injections of boiling water. This is the seventh case that he has operated on in this way successfully. One of the cases was a large cirsoid aneurism of the scalp. He has had a special syringe prepared into which boiling water is drawn directly, and if necessary can be heated afterwards over an Argand burner. The instrument is handled with asbestos gloves. The method is a home-made, simple, but entirely aseptic procedure and commends itself for these hitherto discouragingly intractable cases.

Intestinal Obstruction.—Dr. John B. Harvey of Troy reported a series of cases of operations for intestinal obstruction. In the first case obstruction seemed to be due to the passage of a gall-stone. In another there were adhesions because of an old peritonitis. In the other cases malignant growths were the cause of the intestinal obstruction. Sometimes these increase in size insidiously and suddenly give rise to symptoms. Often there are constitutional symptoms, such as loss of weight, before intestinal symptoms are noted. Cancerous obstruction is liable to occur, especially in the large intestine, and by preference in either the sigmoid or the rectal region.

Radical Cure of Gastric Cancer.—Dr. William J. Mayo of Rochester, Minn., said that cancer of the stomach is hopeless without operation, while it is not entirely hopeless if operation is done in time. Of 183 cases collected by Murphy, eight per cent. were alive after three years. This is at least as good a percentage as can be claimed for operation for cancer of the neck of the womb. Even in cases where the cancer recurs, relief is afforded until shortly before death, while without operation, the condition is a source of extreme and increase in size insidiously and suddenly give rise to glimmer of hope, but the possibility of a cure. If the diagnosis could only be made early enough many more operations than at present would be successful. Fortunately the pyloris which is most often affected by cancer of the stomach is the most movable portion of the organ. There is much less metastasis or lymph-involvement than has been thought. The teaching that tumor contra-indicates operation, yet that without tumor diagnosis is not certain, has been the source of many a delay that made cases utterly hopeless. Laboratory diagnosis fails early in the case and serves only to lead to procrastination. A history of ulcer of the stomach in cases of suspected cancer is a very valuable hint as to the malignancy of subsequent symptoms. Dr. Mayo has been twice deceived. Once he excised a simple ulcer, as he thought, and it proved to be epitheliomatous. On another occasion he operated for malignant tumor and found a simple ulcer causing the gastric symptoms.

Technic of Operation.—Dr. Mayo removes the entire carcinoma and all suspicious-looking tissues in the stomach itself and in the duodenum. He then closes up the stomach and the intestinal opening completely. By means of a Murphy button gastrojejunostomy is performed, care being taken to insert the button at the lowest part of the portion of the stomach that remains. One of Dr. Mayo's cases is alive three years and five months after the operation. In one nearly the whole stomach was removed, yet the after-course of the case was very satisfactory. Many die within the three-year limit, but all were given great relief of symptoms, and this relief continued until near the end of the affection.

Non-malignant Gastric Conditions.—Dr. A. J. Ochsner of Chicago said that he has now operated for non-malignant conditions of the stomach in 27 cases. Two of these were perforating ulcer and the patients were in collapse. There was a fatal termination. It is evident that this condition can only be treated successfully by very early operation. Eight simple ulcers were operated upon with operative success and subsequent relief of the symptoms for which the operation was undertaken. At times, when an ulcer of the stomach perforates, inflammatory adhesions have so walled in the opening that general peritonitis does not ensue. The condition may not be discovered until the resultant subdiaphragmatic abscess is opened. Ulcers of the stomach, therefore, should be treated radically whenever they give serious and repeated symptoms before dangerous complications ensue. The presence of stones in the gall-bladder may cause spasm of that viscus and perforation with resultant peritonitis that may be extremely difficult to differentiate from perforation of a gastric ulcer. Chronic appendicitis may set up peritonitis with resultant adhesions that disturb the movement of the stomach in such a way as to lead to the thought that there is some gastric condition at hand. As the result of the adhesions the pouching of the stomach becomes greater, and the consequent overloading leads to further dilatation. These conditions nearly always require operation. Ordinarily the stomach slants from the cardiac end to the pylorus. Whenever pathological conditions occur, however, there is apt to be a pouching of the greater curvature. When this becomes worse by accumulation of food materials the original condition is often obscured. The tendency to pouching of the stomach always complicates operations upon the pylorus. Food, instead of being moved gently down a slightly inclined plane, must be moved up-hill owing to the sagging of the greater curvature. Almost inevitably then post operative symptoms will occur. Ulcers that are removed in the pyloric region are almost sure to recur as a consequence of the failure of the stomach to empty itself properly. When the pylorus is removed for malignant disease the same unfortunate conditions are apt to assert themselves. Finney's new operation of pyloroplasty may ameliorate these sequelæ, but the operation of choice in most cases seems to be the complete closure of the stomach and of the cut intestine and the performance of a jejunostomy at the lowest point.

Simple Ulcers of the Stomach.—With regard to simple ulcers of the stomach Dr. Ochsner is of the opinion that they should be removed if possible whenever they give sure signs of their presence. On the posterior wall of the stomach it may be impossible to remove them. At times owing to the inflammatory thickening around an ulcer it may be hard to distinguish it from cancer. The existence of enlarged lymphatic glands is not distinctive, since they occur in both conditions. There is no doubt that freer operations on the stomach will save many lives.

In opening the discussion Dr. Wyeth said that surgery, and not medicine, is the treatment of cancerous conditions of the stomach. Surgery may not give great hope of relief, but it gives the only hope. The physician fails in his duty who does not call a surgeon in consultation early in the case.

Leucocytosis for Differential Diagnosis.—Dr. Wilhelm Finder of Troy said that leucocytosis is a differential diagnostic point between ulcer of the stomach and cancer of the stomach. In ulcer the leucocytosis exists for a while at the beginning of the case, but is never very marked, and practically disappears later. In malignant disease there is a constant increase in the number of leucocytes present. Dr. Finder has confirmed his observations in this matter at autopsies.

Dr. Gibbons said that the most important aid to diagnosis in obscure stomach conditions is early exploratory laparotomy. This involves no danger, and it gives absolute information. The difficulty with gastrojejunostomy has always been the liability to the formation of a vicious circle by which the bile is thrown back into the stomach and becomes a source of intense irritation with vomiting and apyrexia anorexia and worse constitutional condition than before the operation.

Dr. Mayo, in closing the discussion, said that the reason for delaying operations upon the stomach is that practitioners depend too much upon text-book opinions, some of which are still relics of the day when surgeons operated in cuffs. None of the opinions of these older surgeons should have any weight in abdominal surgery. With regard to the vicious circle by which bile is carried back to the stomach in gastric jejunostomy, Dr. Mayo said that it could be prevented by making the opening at the lowest portion of the stomach. In the old operations the posterior wall of the stomach was selected because it was less vascular. The vascularity, however, makes very little difference if the surgeon will but take proper precautions.

In closing the discussion Dr. Ochsner said that the vicious circle followed by constant vomiting had proved to be a source of so much trouble that he had given up gastrojejunostomy until he saw Dr. Mayo perform it and fasten the intestine to the lowest point of the stomach, when he realized that this would obviate all the objections. He has now performed 48 operations of this kind without vicious circle. After the operation the patients are fed by the rectum exclusively for two or three or four days, according to the individual patient. Then food is given by the stomach only in small quantities. If vomiting occurs, the pharynx is cocainized and the stomach washed out.

The General Practitioner and Kidney Surgery.—Dr. George A. Leitner of Piermont described two cases in which extirpation of the kidney was successfully done in a small hospital. In one of the cases the patient was suffering from stone in the kidney, pyelonephritis and malignant degeneration of the kidney. In this case the bands of malignant tissue extended also to the pancreas, though the patient did not suffer from the emaciation that is so often said to follow malignant disease of the pancreas. The patient survived the operation for many months. In the other case an extensive tumor of the kidney, that proved to be malignant in character, was operated upon through the abdomen, and the kidney was removed. Two years and five months after the operation the patient is alive and in good health, and was presented at the meeting.

Apparatus for Esophageal Stricture.—Dr. Theodore Dunham of New York described three forms of apparatus for the passage of esophageal strictures. One of them consists of an olive-pointed bougie that follows a guide through the stricture. A second form is for combined cutting through the stricture by means of the movement of a string, but without the necessity for gastrotomy. The third form is for use in strictures requiring gastrotomy, and the directing power is a stream of water which is made use of in order to guide a string through the stricture. Dr. Dunham, by means of an apparatus into which were introduced larger and smaller tubes in imitation of esophageal strictures and pouches, demonstrated how easy it is to pass the string with the aid of water. He also showed how the string may be carried down the throat by performing it on himself, when it took but a few minutes to swallow over a yard of rather thin material.

President's Address.—Dr. Alvin A. Hubbell of Buffalo then read the President's address, in which he dwelt on the necessity for high ideals in the practice of medicine and on the benefit of a code of ethics. The practice of medicine is much more than a business; it is a noble profession. There is unfortunately no definite tribunal to which violations of medical ethics can be carried in this country. The medical censorship in England and the German court of medical honor represent tribunals to which an appeal can be made. It is to be hoped that notwithstanding the absence of such an institution medical ethics in this country may not degenerate, but that the union of the profession of the country under the new code to be adopted by the American Medical Association may prove a stimulus to a united and friendly professional brotherhood.

SYMPOSIUM ON TYPHOID FEVER.

Serum Reaction in Typhoid.—Dr. Thomas W. Hastings of New York read a paper in which he dwelt upon the difficulties of interpreting the serum reaction and what precautions it must be surrounded by if it is to give assurance from a diagnostic standpoint. Recent progress in medicine with regard to paratyphoid fever and the many bacilli which, while resembling the Gaffky-Eberth bacillus, are yet very distinct from it, have still further complicated the problem. The old rule that blood that would cause the agglutination of a culture of typhoid bacilli in dilutions of one to twenty was surely a typhoid-fever case, can not now be assumed to be absolute, and the recent investigations by bacteriologists all over the world show that higher dilutions must be taken. During epidemics of typhoid fever there are many affections supposedly distinct from typhoid in which the Widal reaction may be found. In a certain number of cases of puerperal sepsis this has proven true, and there seems no doubt now that puerperal fever may be due to infection of the uterus with the bacillus typhosus. The serum reaction will probably show that other affections also are due to this manifoldly pathogenic bacillus.

Bacteriology of Typhoid Fever.—Dr. George Blumer of Albany said that until recently typhoid fever was supposed to be an intestinal disease and the occurrence of the typhoid bacillus outside of the intestinal tract was considered to be exceptional. When the typhoid bacillus was found in the blood typhoid septicemia was spoken of, and the case was considered serious. By diluting the blood, however, it was found that many cases of typhoid fever had the bacillus in the blood. Recent observers have shown that considerably more than half the cases present this feature. In recent years Neufeldt and others have shown that at the beginning of typhoid fever the bacillus finds its way from the blood into the rosespots and that in 71 per cent. of the cases bacilli are demonstrable in these lesions. Fraenkel showed that they occur in the lymph-spaces around the blood-vessels.

Typhoid Bacilli in Urine.—It is now known that typhoid bacilli occur very abundantly in the urine of typhoid patients. Usually they are not found in this fluid until late in the disease, as a rule not until the end of the second week, sometimes not until convalescence has set in. In one case it was estimated that 5,000,000 typhoid bacilli existed in a cubic c.c. of urine. According to this estimate many billions of typhoid bacilli would be passed in the day. At times there is discomfort as the result of the passage of these micro-organisms through the kidney, but frequently there are no symptoms at all. Typhoid bacilli have been found in the urine before the Widal reaction occurs. This infection of the urine is evidently quite as important as that of the stools.

Biliary Typhoid.—A few cases of typhoid bacilli in the gall-bladder were reported some years ago, but these were looked upon as rarities. Dr. Flexner has shown, however, that they occur in 50 per cent. of the gall-bladders of patients dead from typhoid fever. At times there is no reaction of the biliary mucous membrane to the presence of the bacteria, but not infrequently there is distinct cholecystitis. As a rule the typhoid bacilli seem to gain an entrance to the biliary tissues through the blood. The cases in which there is an ascending affection from the intestines are rare. Cholecystitic lesions sometimes replace intestinal lesions, giving biliary typhoid fever. The presence of typhoid bacilli in the gall-bladder is of interest because of its connection with gall-stones. At times gall-stones form around the products of microbic degeneration. Not infrequently infection takes place in gall-bladders already in a lowered state of resistance on account of the presence of stones.

Non-intestinal Typhoid.—Louis, the distinguished French physician who first recognized the distinction between typhoid and typhus fever, recognized also that some cases of typhoid fever run their course without intestinal lesions. It is now known that these cases are not near so infrequent as was thought, and the bacillus has been found in many serous and mucous inflammations quite distant from the intestines. Meningitis, various forms of pneumonia, even metritis and inflammations of the spleen and liver are admitted by pathologists. Inflammations of the vascular system have been noted in recent years. The endothelium of lymph-spaces and of veins take on an inflammatory process as the result of typhoid fever. Some of these lesions are due to the diffusible toxins of the bacillus typhosus. There are other locations of the bacillus, such as the bone-marrow, but to consider them would carry the paper too far.

Paratyphoid Fever.—Dr. Nathan E. Brill of New York said that some years ago he had the opportunity to study in Mt. Sinai Hospital a series of cases which, while resembling typhoid fever in many respects, had also many clinical points of difference. Since then there has come to be a general recognition of the existence of a so-called paratyphoid or paracolon fever, though perhaps a better name than either of these would be pseudotyphoid fever. Bacteriologists have been able to differentiate various bacilli that caused these affections and present cultural and other peculiarities that differentiate them from the bacillus typhosus. The most prominent diagnostic sign is the failure of the Widal reaction and the presence of a reaction in the serum of the patients to cultures of micro-organisms resembling the typhoid fever bacilli but distinct from them. While the symptoms of paratyphoid are very similar to typhoid, there are distinct clinical differences. Usually the incubation period of the former disease lasts but three or four days and is followed by chilly feelings or a typical chill. Epistaxis is not rare. Fever usually rises rapidly to 104° F. Within five days of morning and evening rise it has reached this maximum. The sensorium is dull and the patient is very apathetic. The patient is fluished and the upper part of the face in particular is red. There is a zone of white about the mouth. The eyes are dull, the tongue is moist and firm, and the furrows are white, with a slight reddish border along the edges. The brow is wrinkled, there is a sense of pain in the expression, and the patient usually complains of severe headache. At the end of the first week a series of red papules appear. There is nearly always some tympanitis. Constipation is the rule; diarrhea is rare. The patient is in a deeper apathy than in true typhoid fever, and is apt to be delirious in the evening. There are marked morning remissions. The fever continues for ten or twelve days, and then there is a sudden fall of temperature. The lysis of the fever never lasts more than three days, and there may be step-like descent during that time. Convalescence is not so slow as in typhoid. The emaciation is not as extreme as in typhoid, probably because paratyphoid usually does not last so long. Prostration is more marked than in typhoid fever, and this is one of the first complaints the patient makes. There is distinct leucopenia.

There is a second group of paratyphoid cases, in which the affection begins with a sudden chill, usually accompanied by rather sudden pains in the abdomen. The temperature rises in a day or two to 104° F. There is usually diarrhea, and the presence of mucus and some blood, though not to any alarming extent, in the stools. The prostration is marked, and the apathy extreme. The duration of the disease in this form is usually over two weeks. The extreme limits are from 10 to 84 days. Relapses take place in about 10 per cent. of the cases of paratyphoid fever.

Typhoid Not an Independent Entity.—Dr. Brill said in conclusion that typhoid fever is not a disease-entity, but evidently consists of a group of affections caused by specific microbes belonging to a series of micro-organisms that have many morphological and cultural similarities. Until the bacteriologists have solved the problem of the number of these diseases and the distinctions between them, the clinician must wait in patience, observing the differences that characterize them, though many of the symptoms belong in common to all the members of the group.

Arteritis in Typhoid Fever.—Dr. W. S. Thayer of Baltimore said that until very recently it has not been realized that typhoid fever may attack the linings of arteries and give rise to inflammatory disturbances, followed by thrombosis and the clinical symptoms attending this lesion. He described some cases that have been recently under observation at Johns Hopkins. A young woman of twenty-two, in the ninth day of a typhoid fever, was taken with general convulsions. These were repeated for an hour, and during the time the patient was profoundly unconscious. Four hours later the convulsions returned. Afterwards they were noted at intervals of six hours. The case ended fatally. Autopsy showed the existence of early ulcers of the intestine with typhoid bacilli present in the spleen, kidney, heart and liver. There was thrombosis of the left middle cerebral artery. The arteries showed periarteritis, and there were inflammatory changes also in the smaller arteries but without any thrombi, so that evidently the arteritis was a preliminary to the thrombosis.

Femoral and Other Thrombosis.—A boy of sixteen was admitted on the fifth day of severe typhoid fever, after being delirious from the outset. On the eleventh day there was a complication at the left apex, and on the twelfth at the right base. The following day the left foot and leg remained white and cool, although there was no swelling. Later the heel and popliteal space became purplish in color, and then swelling set in. The whole leg became discolored, and an irregular line of demarcation followed. No pulsation could be felt below the middle of the thigh. The leg became purplish and green, and the toes became mummified. During this time the pulmonary signs cleared up. Dr. Thayer detailed two other cases, one in a young man on the seventh day of a relapse of typhoid fever, followed, however, by complete recovery. The other in a school-teacher in whom blood-pressure tests had been taken several times, and who developed swelling and tenderness in the arm. It is evident that some of the old reported cases of aphasia and paralysis during typhoid fever were really due to these arteritic complications.

Modern Treatment of Typhoid Fever.—Dr. Gilman Thompson said that the so-called antiseptic treatment of typhoid fever was founded on the theory that the disease was always accompanied by intestinal lesions. This is now known not to be true in all cases. There are other objections. First, it is difficult to kill typhoid bacilli without injuring the delicate cells of the intestinal mucous membrane. Secondly, antiseptics become changed and diluted in the stomach and intestines, and consequently do not act always as they do outside the body. Thirdly, the typhoid bacilli exist in the lymph-structures and cannot be reached unless the antiseptic is absorbed. Fourthly, we now know that bacilli are much more widely dispersed than has been thought. In over 80 per cent. of the cases typhoid bacilli can be found in the blood.

Drug-treatment.—The initial use of calomel for typhoid fever is excellent. Daily doses of calomel, as advised by some, are a source of *salivation,* not *salvation,* for the patient. The great danger in the disease is the occurrence of tympanitis. This stretches the floor of the ulcers and gives rise to the danger of perforation or hemorrhage. As soon as the collection of gas is noted there should be a change of diet. Where constipation exists, small doses of bitter water can be given with advantage, and a rectal tube inserted in order to remove the gas. The two best remedies are sodium sulphocarbolate and turpentine. The latter has maintained its reputation for many generations. If the stools are very fetid the colon should be cleansed by an enema. There should be no medication unless there is some distinct indication for it. As patients take only liquid food, care should be taken to keep their mouths clean by means of hydrogen peroxide. There is no need of antifermentative drugs unless constipation and tympanites show themselves. Plenty of water should be administered of the temperature the patient wishes. This lessens the constipation and dilutes the toxins in the circulation. In this way the kidneys are spared some of the strain that is brought on them and the patient is rendered more comfortable.

Hydrotherapy.—The Brand method is unfortunately applied by many physicians in a half-hearted way. Its principal indication is not so much to reduce temperature as to stimulate the nervous system. The patient's restlessness, or nervous condition is a better index of the need for a bath than is the thermometer. The sudden cold plunge gives the best stimulus possible for the nervous system. It gives much more satisfaction than sponging. There is often more complaint of cold from sponging than from tubbing. The bath gives the patient rest and reduces the mortality. For insomnia the bromides, with small additions of cocaine, are better than opiates, and they do not lock up the secretions.

Hemorrhage.—The first sign of hemorrhage may be noticed as long as 12 hours after the hemorrhage has really occurred. If it is once repeated no food should be given by the mouth, but two or three ounces of food may be administered by the rectum at intervals. If hemorrhages continue in slight amounts for a considerable period, then the patient should not be starved, but predigested food should be administered. In Dr. Thompson's experience suprarenal extract has done good, especially in early hemorrhages. It is not of so much service in late hemorrhages. In some cases it is a signal failure. The use of the ice-bag is contraindicated. It does not stop peristalsis, and as it drives the blood from the surface to the body it rather adds to the internal congestion and encourages lesions. If there is collapse and loss of blood normal salt solution should be injected subcutaneously. At the Presbyterian Hospital, salt solution is kept constantly warm by means of the thermostat when typhoid fever patients are in the house.

Variety of Diet.—It is not necessary to keep patients absolutely on a milk diet. Where the taste of milk is objected to, vichy or small amounts of coffee may be added to flavor it. Beef, mutton and chicken broths can be employed with perfect safety. The use of milk alone is apt unduly to protract the convalescence. Increase the diet as soon as the patient's temperature sinks below 100° F. Junket and scraped beef are the first additions to be made. When milk is being given in large quantities look for coagulated milk in the stool. Hard coagula may prove quite as irritant as any form of solid food. With ordinary care, under favorable circumstances, 93 per cent. of typhoid-fever cases will recover.

Complicated Case of Typhoid.—Dr. Albert W. Preston of Middletown described a patient who suffered from several relapses of typhoid fever. Besides this, in the ninth week edema was noticed in the limbs, and suppression of urine took place. In the tenth week a pleural effusion occurred. The pulse rose to 175, the patient was tapped three times and hemorrhagic fluid was removed. On the one hundred and fifteenth day there was stupor and great weakness from persistent toxemia. Despite all these symptoms the patient recovered.

Serum Diagnosis.—Dr. S. J. Meltzer of New York, in opening the discussion, said that the solution of blood dilution of blood serum used by the Board of Health, namely 1-20, is too low to exclude certain mixed infections that may occur alongside of typhoid. He said that the study of immunizing bodies, the lysins, precipitins and agglutins, showed that as different animals were grouped in reactions to injections of various sera, so bacillary groups were also related to one another and might in low dilutions cause reciprocal agglutinations.

Dr. E. Libman said that paratyphoid fever is due to an essentially different organism from the bacillus of typhoid fever. The colon bacillus coagulates milk and thus differs from the typhoid bacillus and the paratyphoid bacillus is differentiated from both by the production of gas and glucose. Another distinction is the secondary alkalinity that sometimes occurs as the result of their growth. Mixed infections are not improbable in certain cases, and would be extremely hard to differentiate.

Acetozone.—Dr. Thornton of Buffalo said that the new drug acetozone seemed to be of excellent service in typhoid fever. It has a decided antifermentative action that prevents many of the intestinal symptoms of typhoid. It is almost a specific in its favorable effects. It causes the affection to run a milder course, and seems distinctly to abbreviate it. About six grains should be dissolved in two quarts of water, making a solution of 1-5,000, and it is then given to the patient to drink ad libitum, about this amount being consumed each day. It has been found of decided benefit in the United States service at the post near Buffalo.

Serum for Paratyphoid Diagnosis.—Dr. Camac said that the serum for the diagnosis of the paratyphoid fevers may be taken in small capillary tubes with a bulb at the center. This may be tested with perfect satisfaction at any distance.

Dr. W. H. Thayer, in closing the discussion, said that the careful use of the serum-tests will undoubtedly facilitate the differentiation of many fevers formerly considered typhoid. There seems no doubt that present investigations will enable the profession to understand what is the mechanism of cell-reactions to bacterial products by which blood-equilibrium is disturbed and arteritic conditions established, which eventually lead to thrombosis.

FOURTH DAY—OCTOBER 23.

Advantages of Nitrous Oxide.—Dr. H. W. Carter of New York said that nitrous oxide can be used with distinct advantages in many operations in general surgery. It gives the patient much less inconvenience and is decidedly less dangerous. He exhibited a special form of stop-cock by which the gas can be administered with various percentages of oxygen, so as to secure narcosis for long periods without risk. The stop-cock has the advantage of valves that are not acted upon by the gases and that are enduring.

Standard Technic in Surgery.—Dr. Edward Wallace Lee of New York said that there is need of a standard of technic for asepsis and antisepsis in surgery. Each operator now commends his own method, though at times they are contradictory of those employed by others. True progress in this matter would seem to demand the institution of some standard of methods.

Dr. Ochsner of Chicago said that 4,000 years ago the Chinese came to do things with such perfection that they established their methods of that time as standards and have continued to do things that way ever since. There are those, however, who do not see any decided advantage in following the Chinese in this matter.

Dr. Mayo said that he was not satisfied with his own methods as yet, and was glad that others differed from him, because he frequently secured valuable points from them. Uncertainty leads to investigation and informing experiment.

Dr. Walsh said that when Lord Lister, who is the son-in-law of the distinguished English surgeon, Symes, announced his intention of taking up surgery as a specialty, his father-in-law is said to have discouraged him, because there was no future in surgery. Everything that could be done had been done, according to the old surgeon, and there was no prospect of evolution in the art and practice that would make it worth while as a man's life-work. Lord Lister has absolutely revolutionized the practice of surgery, notwithstanding the warning of the well-intentioned old surgeon. The introduction of standards would almost surely hamper progress.

Emergency Hemorrhage Medical.—Dr. Dawbarn of New York said that emergency hemorrhage is always serious. The older a surgeon is the more he fears the loss of a drop of blood. Medical hemorrhage consists of those cases in which no direct compression can be applied. For hemoptosis ergot and the various internal styptics are of very little service. Aconite may be used with advantage if the heart-beat seems too strong. The most important procedure for uncontrollable pulmonary hemorrhage, however, is the cording of the limbs. A towel should be knotted tightly around three of the limbs and then twisted until the circulation is stopped, the evidence of which will be the occurrence of swelling. This must be kept up until the patient is somewhat faint. After half an hour the fourth limb should be corded and one of the others gradually loosened. The same thing should be done for apoplexy. The family should be told how to apply the Spanish windlasses to the limbs. Lives have been saved in cut throats and opened wrists because of the fainting that results, giving an opportunity for clotting to take place.

Emergency Hemorrhage Surgical.—Nosebleed takes place from one of the two arteries of the septum, usually the lower one, and can often be stopped by occlusion of the artery. For this purpose a hairpin may be used as a dilator and the bleeding-point in the artery may be cauterized by another hairpin, heated red-hot. The application of adrenalin or of 10 per cent. gelatin may also be of service. When the upper artery of the septum bleeds it may be necessary to plug the nose. For this a rubber catheter is inserted along the floor of the nostril, and when seen in the pharynx is pulled out through the mouth. The Bellocq cannula is pictured in the text-books, but is used no more. By means of the catheter a double cord is pulled through the nostril, leaving the ends projecting from mouth and nose. In order to stop hemorrhage ordinary cotton-batting should be employed. It should be boiled beforehand, in order to make it aseptic. Absorbent cotton and absorbent gauze invite bleeding. A piece of cotton of the size of the pharynx should be drawn behind the soft palate. This structure may be brought forward in emergencies by a bent spoon. It is better to flood both choanæ than to attempt to fill up only one. Then with the patient on the back, weak tea or a gelatin solution should be poured into the anterior nostril. If the tampon at the back is properly put in, the level of the liquid will not sink. Its presence of itself will serve as a styptic. The secondary plug should be put in the anterior part of the nose and tied in by means of the skin with sufficient firmness, so that the nose is forced over a little. This produces discomfort, but an opiate will relieve it.

Hemophilia.—Cases of bleeding in this diathesis give the most trouble. The most recent treatment, and one that has been used with good success, is to bring normal blood in contact with the tissues. After the posterior plug is put into the nose, and its efficiency has been tested by the water-seal, blood from another person or from an animal should be poured into the nostril. Alien blood causes rapid dropping, and the clots are firm and occlude the bleeding vessels.

In the discussion Dr. Simpson of Pennsylvania said that the best remedy for bleeding from the nose is the application of a 10 per cent. solution of adrenalin. This will nearly always prove effective. There are certainly some cases in which it has failed.

Dr. Ochsner observed that Dr. Dawbarn's methods commended themselves by their simplicity and directness.

Whites of Eggs in Hemophilia.—Dr. Ochsner said that it is worth while trying a recent suggested method for lessening the tendency to bleeding in bleeders' disease. This consists in using large quantities of the white of eggs. The whites of four to six eggs should be given three times a day. This albuminous material seems to have a good effect on the clotting properties of the blood, and so prevents the uncontrollable hemorrhage which so often occurs in these patients. Dr. Ochsner continued that Mayo Robson suggested dram doses of calcium chloride three times a day, given in plenty of water, as a treatment for the hemorrhage which so often proves uncontrollable in cholemia. The drug may be given every four hours for four or five days before operation by the rectum.

Dr. Mayo said that he has tried calcium chloride where he feared cholemic hemorrhage, and so far has not been disappointed in it. Before its use, whenever he operated upon gall-stone cases that exhibited signs of purpuric spots the patients died from hemorrhage. He has had no deaths since the use of calcium chloride, but so far he has not dared to operate where purpura existed.

Bacteriology of Pneumonia.—Dr. A. C. Abbott of Philadelphia reviewed the bacteriology of pneumonia from the time when Juergenson first taught that pneumonia was a specific infectious disease through the period when Friedlander's bacillus was for a time accepted as the specific cause, until the discovery of Sternberg, Pasteur, A. Fraenkel and Weichselbaum showed the causative influence of the pneumococcus. Welch found the pneumococcus present in 10 successive cases. There are many secondary infections liable to be concurrent with pneumonia. Remote organs may be affected by the streptococcus. The micro-organism occurs in the blood oftener than has been thought. The recent attempts to make curative or prophylactic sera have not as yet reached the stage where much practical good can be looked for from them.

Leucocytosis in Pneumonia.—Dr. Alexander Lambert said that a small leucocytosis in pneumonia may mean a very light attack of the disease or one of extreme severity with unfavorable prognosis. Usually there is a leucocyte count of 20,000 or more, higher according to the number of lobes affected. The leucocytosis must be taken daily to get the prognosis of the case, and this is difficult for the practitioner. There is no ratio between the fever and the number of leucocytes. The persistently low leucocytosis, 3,600 or less, is nearly always fatal. Persistent dropping of the leucocyte count looks suspicious. The practical value of the leucocyte count in pneumonia will probably be its diagnostic import with regard to empyema. This has been considered a sequela rather than a complication. But it seems to occur during a course of the pneumonia itself. A sudden doubling of the leucocyte count usually means the occurrence of a purulent complication in the thorax, and demands further investigation. In four cases under Dr. Lambert's care, without any change in the physical signs, the use of an aspirating-needle showed the presence of empyema when it could not otherwise have been suspected.

The Finsen Ray.—Dr. Francis P. Kinnicut of New York reviewed some of the therapeutic effects of light as it has been investigated by Finsen. The protection of smallpox patients from actinic rays shortens the course of the disease and often prevents the occurrence of suppuration. It does not prevent death that might occur from the severity of the smallpox before the suppurating period. Not only in smallpox has light been found very effective, but also in the treatment of lupus vulgaris and lupus erythematosus. In lupus vulgaris, particularly, it has proved successful where all other treatment has failed, and the patients are not liable to have recurrences of the disease. In other slow-running processes in the skin, as alopecia areata and rodent ulcer, light has also proved very effective. Dr. Kinnicut exhibited an apparatus for the light-treatment which he had procured in London. The light is surrounded by a water-jacket so as to prevent all heat from reaching the patient, and the lens is pressed tightly against the skin in order to produce ischemia. It has been found that when the blood is squeezed out of the tissues they react much better to light. There is a local reaction after each treatment, and if necessary the interval between treatments must be long enough to prevent too much irritation. It takes a long time to produce good results, but this tediousness is the only objection. There is very little discomfort; the treatment itself is absolutely painless, and as the affections for which it is used are very slow-running, it may well take time to cure them. Finsen himself considered that the light-rays are better than the X-rays for the treatment of very superficial lesions.

Dr. W. S. Gottheil said, in discussing the paper, that a lamp of the size presented by Dr. Kinnicut is entirely too small for effective work. It is of only eight to ten ampères, while it should be of 60 to 70 ampères, and a rock-crystal lens should be employed to concentrate the rays. He has used this larger form of apparatus himself on four cases of lupus erythematosus, and three of them have been cured.

Glass Prevents Effect.—Dr. Franklin said that the use of a glass lens will absolutely prevent the ultraviolet rays from passing, and as these are the most effective therapeutically, glass makes the apparatus of very little value. All known specimens of glass now on the market are practically impervious to ultraviolet light. Experiments are being made which may result in the manufacture of glass that can be used for this purpose.

Finsen's Work in Copenhagen.—Dr. Bulkley of New York said that he visited Copenhagen during last summer and saw the enormous number of cases under treatment in Finsen's phototherapeutic institute. The patients came from every country in Europe and also from this continent. The results obtained were beyond anything Dr. Bulkley had ever anticipated. This was especially true with regard to lupus vulgaris. It takes long—sometimes 500 hours of treatment. It is tedious, but it is effective. The light-treatment is not used exclusively. Lesions of the mouth and throat are treated by skilled laryngologists, and if irritation is set up the indicated ointments are employed. At times, under the influence of the light, small blisters arise, then an interval of a week is taken in the treatment.

Mechanics and Physiology of the Roentgen Ray.—Dr. Eden V. Delphey discussed the mechanics, the physiology and the pathology of the Roentgen rays. He said that the X-rays are not electric, but a higher wave-motion than light. Any form of energy that would bombard a metal plate in a vacuum would produce them. It happens that electricity is the most suitable agency for this purpose. The X-rays may be obtained from the static machine or from Ruhmkorff coils. The current from coils may be obtained in all weathers. The X-rays from this source, however, are more liable to produce burns and other secondary effects. The vacuum in the tubes employed for the X-rays often deteriorates and then the use of some chemical, usually potassium hydrate, is needed to raise the vacuum. Various automatic arrangements for this purpose are invented. The X-ray waves are too small to be reflected from any surface that we have so far been able to make. The smoothest surface is rough for them. They are not affected by refraction. The physiological effect of the X-rays is to cause increased dilatation of the blood-vessels, with exudation of serum and some inflammatory reaction. This hastens the metabolic chances in the tissues and so brings about improvement in chronic pathological processes.

X-rays for Fractures.—Dr. Carl Beck of New York showed by a series of radiograms that there are certain cases of recent fractures, as well as some of old ununited fractures, in which it is impossible to diagnose by ordinary physical examination the condition present. In these cases radiograms often prove a source of surprise by exhibiting something that is quite different from what was anticipated. The splintering of bones particularly can only be properly recognized by X-ray examination. Combinations of lesions, as fractures and dislocations or fractures around or into a joint, make insoluble problems without them. Dr. Beck demonstrated the necessity for the use of the X-rays in the diagnosis of such cases.

X-rays for Cancer.—Dr. Charles Warrenne Allen of New York gave the details of the treatment of 50 cases of cancer. Patients were from 15 to 18 years of age, and 33 cancers were of the epithelioma rodent ulcer type. Ten were cancers of the breast, six recurrent, and one cancer en cuirasse. Of the 33 rodent ulcers five were fatal. Of all of these cases over 50 per cent. were discharged cured. In one case an epithelioma was treated that had developed as the result of an X-ray burn. Adjuvants to the treatments by the X-rays were freely employed. Where the cancer was superficial the base was curetted, and at times the surface covered with methylin-blue paint. At times, as the result of the breaking-down of tissue under the influence of the X-rays, products were absorbed, but gave some constitutional symptoms. Dr. Allen does not encourage the use of the X-rays except by those familiar with the difficulties and dangers of their use. Serious results may follow their incompetent application.

The X-ray in Gynecology and Obstetrics.—Dr. Eden V. Delphey said that for cancers of the genital tract the best advice would seem to be to remove as much as possible of the cancerous material, and then treat by means of the X-rays. For intracorporeal applications various forms of specula may be employed that screen off the effect of the X-rays except as regards the parts they are meant to act upon. Personally he has found the use of a sheet of celluloid in the vagina ample protection.

Dr. Joseph B. Cook of New York said that the X-rays do not give any better information in obstetrics than can be obtained from the ordinary methods of examination. Even with them there is no trace of the fetus to be seen in the living woman until the fifth month. They cannot be used therefore for early diagnosis of pregnancy. With regard to the diagnosis of the presentation of the fetus, there are too many disturbing elements to allow them to be of much service. Careful palpation will give more definite and more assured information.

Dr. Morton in opening the discussion said that a year ago this symposium on the X-rays in cancer would have been laughed at as a bid of the electrotherapeutists for attention. It is interesting to find how much has been accomplished in so short a time. Personally he is of the opinion that the X-rays will prove effective not only for recurrent carcinomata, but also for primary carcinomata. In applying the Finsen rays he has found the small lamp invented by Kjelsen very useful. This lamp has iron electrodes instead of carbons, and gives ultraviolet light in large quantities.

Combination of X-rays and Finsen Rays.—Dr. Kinnicut said that in rodent ulcers with indurated and rolled-up edges the combination of the Finsen rays and the X-rays have been found more effective by English observers than either of these therapeutic agents alone. Dr. Kinnicut also presented a tube made of leaded glass, through which the rays passed only at the end absolutely protecting all other parts.

X-ray Uncertainties.—Dr. William B. Coley said that he had treated with the X-rays at the General Memorial Hospital 68 cases of malignant disease. Some excellent results were obtained, but recurrences after the cessation of the treatment are not unusual. It is not yet time to announce results as definite. He presented two cases of especially malignant sarcomata that seemed hopeless, yet had been improved so much under X-ray treatment that a radical cure seemed promised.

BOOK REVIEWS.

THE SCHOTT METHODS OF THE TREATMENT OF CHRONIC DISEASES OF THE HEART. With an Account of the Nauheim Baths, and of the Therapeutic Exercises. By W. BEZLY THORNE, M.D., M.R.C.P. Fourth Edition. P. Blakiston's Son & Co., Philadelphia.

THE fact that this is the fourth edition of a monograph on so specialized a subject as the Schott method of treating heart-disease is of itself a sufficient index of the attention the book has attracted. The medical world is agreed that the Schott brothers accomplished more for certain forms of heart-disease than any one else in the present generation. Dr. Bezly Thorne's book is simply a faithful description of their methods by one who studied under them and has employed them himself. The book is well worth the reading, and contains suggestive material even for those who may not send patients to Nauheim. The Schott method of resistive exercises may well be employed in any part of the world with good effect. For those who see much of heart-disease the book will be valuable.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly Under the General Editorial Charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX. PHYSIOLOGY; PATHOLOGY; BACTERIOLOGY; ANATOMY. Pathology Edited by W. A. EVANS, M.S., M.D., Professor of Pathology, College of Physicians and Surgeons, Chicago. Bacteriology Edited by ADOLPH GEHRMAN, M.D., Professor of Bacteriology, College of Physicians and Surgeons, Chicago. August, 1902. The Year Book Publishers, Chicago.

IN this volume the chapter on physiology contains an excellent discussion of certain recent advances in our knowledge of immunity and protection, as also of the reaction that takes place within the body when various foreign substances are introduced. For those who find it difficult to understand some of the references in recent medical literature to Ehrlich's explanation of the mechanism of immunity, the remarks on the antitoxins, and the antibodies generally, the precipitins, the agglutinins, the lysins and the cytotoxins will be especially informing. The chapter on pathology contains a discussion of more recent important papers with regard to the cause of cancer. The pages devoted to bacteriology contain a more detailed account of recent work in immunity and protection.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, 1902. 8vo, 528 pages. The Society.

DISINFECTION AND DISINFECTANTS. By M. J. Roseman, M.D. 12mo, 353 pages. P. Blakiston's Son & Co., Philadelphia.

A NURSE'S GUIDE FOR THE OPERATING ROOM. By Dr. N. Senn. 8vo, 127 pages. Illustrated. W. T. Keener & Co., Chicago.

HISTOLOGY AND MICROSCOPIC ANATOMY. By Dr. Ladislaus Szymonowicz. Translated and Edited by John Bruce MacCallum, M.D. 8vo, 435 pages. Lea Brothers & Co., Philadelphia and New York.

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ORIGINAL ARTICLES.

TREATMENT OF CONGENITAL DISLOCATION OF THE HIP.*

BY ROYAL WHITMAN, M.D.,
OF NEW YORK.

CONGENITAL dislocation of the hip is a serious disability. The articulation is insecure; the static conditions are deranged and the limb is shortened. Even if there were no increase of the discomfort and no deformity to be feared, the limp alone as it is seen in childhood is quite important enough to merit any treatment that offers reasonable hope of success.

The statement is often made that a dislocation is of comparatively slight consequence in females because of the concealment afforded by the skirts and because the part is not to be subjected to the strain of laborious occupation. But as this argument applies equally well to any deformity or disability of the lower extremities it hardly deserves special consideration.

Congenital dislocation of the hip can be absolutely cured both as to form and function. Such perfect cures can be expected only in cases treated at a seasonable time and in which excavation of the acetabulum has not been necessary.

The first essential of success is complete and permanent replacement of the displaced femur. Without such reposition functional cure is impossible.

Perfect and permanent reposition by simple manipulative treatment alone must fail in a large proportion of the cases in which it is employed. This treatment should be supplemented therefore by one or other of the cutting operations. If excavation of the acetabulum is required a very considerable limitation of motion is to be expected; but if the reposition is secure the ultimate result will be far better than that attained by anterior transposition of the head of the femur.

In cases treated at a proper age manipulative replacement is the treatment of choice. When its details are better understood and when its limitations are recognized it is likely in great degree to supplant the older operations.

It must have been the experience of every one who has attempted to discuss or to describe the Lorenz operation that it is difficult to make oneself intelligible by means of the terms ordinarily used to indicate attitudes of the limb. To illustrate: Let a model lie upon his back on a table with the legs extended and with the inner borders of the feet in apposition. Now if a student be asked to demonstrate the range of abduction he will move one limb away from its fellow in the same plane until the movement is checked by the normal muscular resistance. If asked to overextend the abducted limb he will carry it backward or behind the plane of the body. (Fig. 1). In this attitude, as may be demonstrated by means of a pelvis and femur, the neck of the femur lies in the plane of the side of the pelvis, the head of the bone pointing downward and slightly inward and forward. If now the thigh be rotated outward the head of the femur will turn upward and forward to distend the anterior in place of the inferior wall of the capsule. The student, if instructed to lessen the abduction, will carry the extended limb towards its fellow lying in the original position on the table; to flex the limb he must lift it upward or toward the ventral surface of the body. To him therefore Lorenz's description of the typical attitude in which to fix the limb after reduction of the dislocation as hyperabduction (to a right angle with the trunk), hyperextension (behind the plane of the body) and outward rotation, will seem clear and definite because he interprets it from the anatomical standpoint.

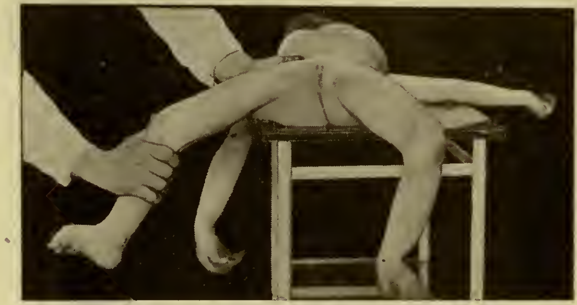

Fig. 1. Abduction and hyperextension.

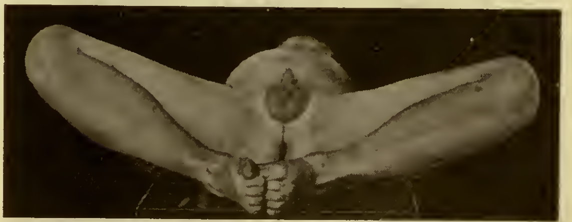

Fig. 2. Illustrating the range of normal abduction of the thighs, from the attitude of right angular flexion.

The model having resumed the extended position, the right limb is now flexed to a right angle with the trunk. If a second student be asked to demonstrate the range of abduction of the flexed thigh he will of course carry it directly outward to its limit. (Fig. 2). To hyperabduct he must force the thigh downward until it lies parallel to the table. To lessen the abduction he will lift the thigh ventral-wards; to lessen the flexion he will carry it downward toward its extended fellow.

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* Read before the American Orthopedic Association at Philadelphia, June 6, 1902.

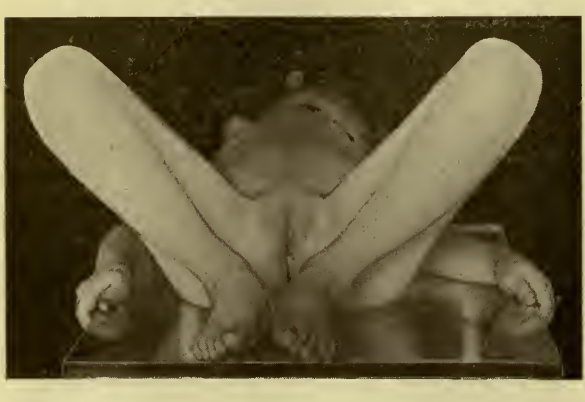

Fig. 3. Illustrating the limitation of the range of abduction in bilateral dislocation. Compare with Fig. 2.

It may now be demonstrated by means of the pelvis and femur that in this attitude, which he will describe as flexion and hyperabduction, the neck of the femur lies in the anteroposterior plane of the pelvis, a position identical with that which the first student calls hyperabduction, extension and outward rotation. This confusion is accounted for in part by the difference in the manœuvers by which the position is attained, but principally by the unnatural or distorted attitude of the limb. One must understand the point of view of his audience therefore or else discard the terms. One may, for example, describe the typical attitudes of Lorenz as one in which the thigh, drawn up to a right angle with the the body, is forced outward until it lies in the plane of the trunk, or even somewhat behind it. And one may say of the after-treatment that the limb is gradually let down in the same plane, when the bandage is renewed. When the normal position is approached the ordinary terms may be employed; as, for example, one could describe the ordinary attitude in disease of the hip-joint as one of flexion, abduction and outward rotation, without fear of beng misunderstood.

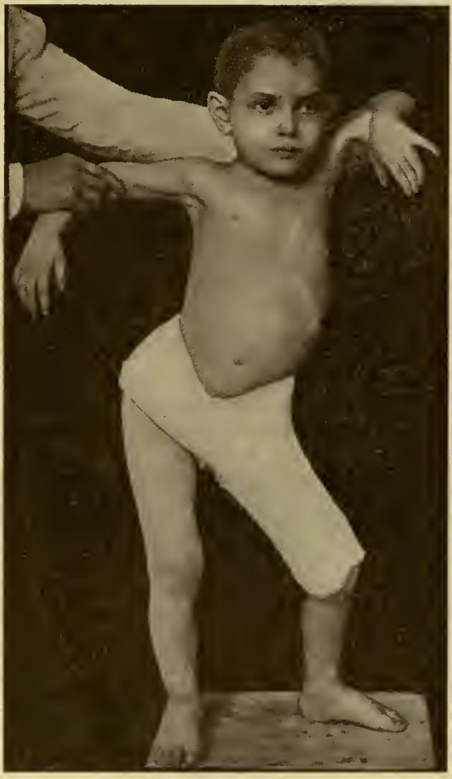

Fig. 4. Unilateral congenital dislocation showing the fixation bandage. A shoe with a cork sole about three inches in height should be worn on the operated side, while the attitude of exaggerated abduction is maintained.

The important points for consideration in an operation whose success is supposed to depend upon regenerative changes in and about the point, are, of course, the relation of the head of the femur to the acetabulum and how this relation is influenced by the successive changes in the position of the limb. In the treatment of the congenital as well as the acquired dislocation one aims to fix the parts in relation until there is no longer danger of redisplacement, the essential difference being that the undeveloped acetabulum and the lax capsule offer but slight support for the head of the femur. The distortion described as the typical position for fixation of the limb is essential in order to stretch the contracted anterior border of the capsule thoroughly and to place the femur in such a position that displacement is practically impossible. It must be borne in mind, however, that the Lorenz treatment is founded on the theory that the acetabulum is rudimentary, that its enlargement to a sufficient capacity is essential, and that this may be accomplished by direct pressure of the head of the femur in functional use. This is in fact the radical difference between the method of Lorenz and that of Paci which preceded it.

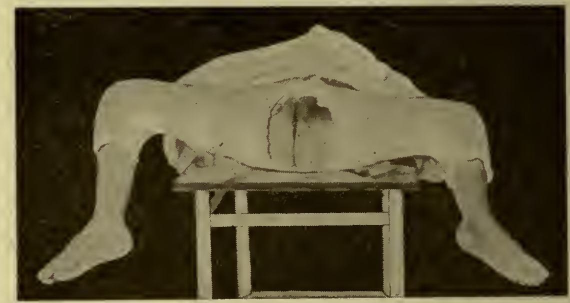

Fig. 5. Bilateral congenital dislocation after reduction, the plaster bandage extended below the knees for more perfect fixation.

At present we have no accurate knowledge of the time required for the deepening of an insufficient acetabulum and for the reconstruction of the cotyloid ring, if it be reconstructed. Simple manipulative treatment fails in a large proportion of the cases, and it is probable that many of the successful cases may be explained by the presence of a sufficient acetabulum rather than by subsequent transformation. If it be admitted that this transformation should follow functional use after reposition, then non-success must be thus accounted for:

1. Failure to force the head of the femur through the constriction of the capsule and into direct contact with the acetabulum. At one time it was believed that the constriction of the capsule between the acetabulum and the part supporting the head of the femur was in most instances an insurmountable obstacle, but it now seems probable, in the light of clinical experience and of more recent autopsies, that its importance has been exaggerated, at least in the early cases. If, however, a fold of capsule is interposed between the head of the femur and the acetabulum there is a peculiar insecurity at the time of operation, and a subluxation is present when the first fixation bandage is changed. This is apparent to those who are experienced in palpation, and it may be demonstrated by an X-ray photograph.

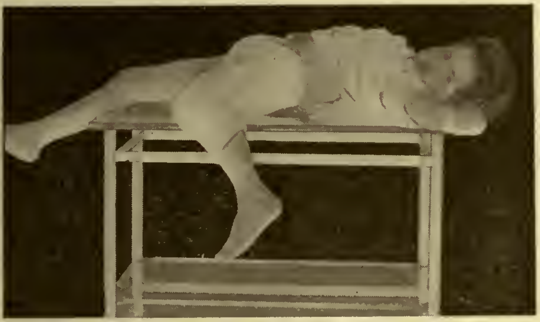

Fig. 6. Abduction and inward rotation. The attitude preliminary to osteotomy in cases in which there is an anterior twist of the upper extremity of the femur.

2. Such malformation that adaptation is impossible. The most important of this class is a twist of the upper extremity of the femur, or so-called anteversion of the neck. This anterior twist of the femur, to a degree sufficient to displace the head from the acetabulum when the limb is in normal position, is usually present in primary anterior and supracotyloid displacements, which are forms far more common than statistics indicate, and it not infrequently complicates the ordinary type as well. In certain instances it is possible to demonstrate this distortion by palpation or by an X-ray photograph before the operation, but in many cases its presence is not suspected until subluxation appears, when in the subsequent treatment the normal position of the limb is again approached.

Excluding these two causes of failure, which can be remedied only by arthrotomy and osteotomy, a third class remains in which it would appear that the head, at the time of operation, is forced into contact with the rudimentary acetabulum, and that the shaft of the femur is not twisted to a degree preventing adaptation. Non-success under such circumstances must be explained either by failure to hold the parts in apposition or by insufficiency of time allowed for adaptation or transformation.

In the erect posture the attitude in which the head of the femur is most completely in contact with the acetabulum is one of slight abduction, flexion and inward rotation. This attitude is therefore the one that should be most favorable for the development of the shallow acetabulum of congenital dislocation. In the typical attitude of Lorenz, which is described as hyperabduction, hyperextension and outward rotation, the head of the femur is forced forward so that it may be easily palpated in Scarpa's triangle. In this position there can be but bare contact of the upper part of the head with the acetabulum, and the pressure, therefore, is but slight. It is assumed that this extreme position is necessary in order to prevent displacement and in order thoroughly to stretch the anterior wall of the capsule; and in the ordinary routine of the Lorenz treatment this position is usually retained from four to six months, or half the time during which the fixation bandage is used. This would imply that the adaptation of the soft parts about the joint is of greater importance than actual deepening of the acetabulum by direct pressure. It seems to be the general impression that there is danger of redisplacement to the original position upon the dorsum of the ilium, whereas in the majority of cases the displacement is forward and upward, the first indication of failure being a slight lateral subluxation, so that the head of the femur can be felt at the outer side of the femoral artery. It is this very common experience that has suggested the advisability of fixing the thigh more effectively and in certain cases holding the head of the femur slightly internal to the femoral artery. This is what is meant by inward, as distinct from outward, rotation of the limb.

The outward rotation described by Lorenz is, from the operative standpoint, no rotation at all, for as is well known, the ordinary method of reducing the dislocation is first to overcome all resistance by direct traction and by massage of the tense adductors. The thigh is then flexed to a right angle with the trunk, and the pelvis being fixed by an assistant, one exerts upward traction on the thigh with one hand and with the thumb of the other pushes the trochanter upward. Thus the head of the femur is lifted over the posterior and inferior margin of the acetabulum. As the thigh is carried backward to, or behind the plane of the body, the head of the femur is forced forward, in some instances showing as a distinct elevation below Poupart's ligament. Slight inward rotation, sufficient to turn the center of the head slightly internal to the femoral artery, means from the anatomical standpoint simply incomplete outward rotation, rather than inward rotation as opposed to outward.

If this position of lessened outward rotation is thought to be desirable, or if one wishes to fix the limb more securely in the typical attitude during the early stage of treatment, the plaster bandage must be carried below the knee, the leg being flexed upon the thigh to prevent rotation. The attitude is somewhat more awkward than when the leg is free, and walking is somewhat more difficult, but better fixation is assured, and I am convinced that this is of advantage, particularly in the treatment of very young children. When the second plaster bandage is applied at the end of two or three months, one has an opportunity to test the security of the joint, and if this permits, the limb may be lowered to a degree that will allow the patient to walk upon the foot without the aid of high shoe. At this time the ordinary Lorenz bandage is used (Fig. 4), and if necessary manipulation may be employed to overcome any limitation of complete extension at the knee. The aim should be to stretch the anterior border of the capsule thoroughly; to overcome all muscular shortening at the time of operation, and to fix the limb in the abducted and hyper extended position for a sufficient time to assure the adaptive changes in the capsule and surrounding muscles. In the after-treatment the limb should be retained in attitudes in which actual pressure of the two surfaces on one another is assured for a time that seems adequate for the development of the acetabulum. This time must vary with the age of the patient and with the anatomical condition of the parts. In some cases, particularly those in young children, the stability of the joint is such that a cure is practically assured when the first bandage is changed, the acetabulum being of sufficient size, no transformation is required. But in older subjects—provided that one is reasonably sure that the head of the femur has been forced through the capsule, and that anteversion will not prevent success—the period of adaptation should be very much increased. A year at least would not seem too long a time for this purpose.

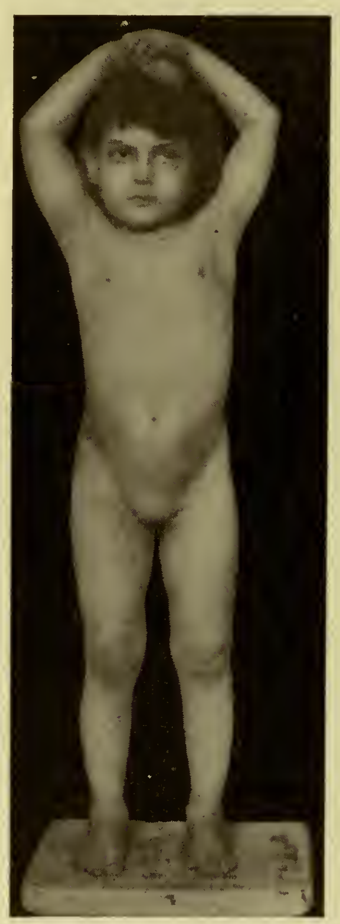

Fig. 7. The cure of congenital dislocation. The same patient is shown in Fig. 4.

Those who limit themselves to the bloodless treatment apparently believe that the final result of simple transposition of the head of the femur is equal to the best that may be attained by further operative intervention. This can hardly be admitted. It is well know that function can be greatly improved by fixation of the insecure articulation for a sufficient time to permit retracton of the capsule and muscles. After the support is removed there is a gradual return to the original condition, and there is no reason to believe that the final result of operative transposition will differ in any essential from that of the primary anterior displacement, in which the limp is of the characteristic type, although less marked than in the ordinary form. To assure success, therefore, in the sense that it has been defined, the simple manipulative treatment must be supplemented in many instances by one or more of the cutting operations. These are osteotomy, arthrotomy and excavation of the acetabulum.

The first procedure is indicated in those cases in which the upper extremity of the femur is so twisted that the neck points forward and slightly inward, instead of inward and slightly forward. As is well known, there may be a very considerable deviation from the normal direction of the neck of the femur without apparent disability if the head is restrained by the normal capsule and cotyloid cartilage. In the absence of such restraint, however, even a moderate degree of anteversion is sufficient to prevent success.

This distortion is almost always present in anterior dislocations, in older subjects at least, and in a certain number of cases of the common type. Not infrequently the diagnosis can be made before treatment. As a rule, however, the failure of treatment and the transposition of the head of the bone makes its presence evident. It this distortion is known to be present, the limb must be fixed after reposition in an attitude of inward rotation sufficient to compensate for the anteversion, the foot pointing, as a rule, directly inward. (Fig. 6). When the plaster dressing is changed, at the end of two months or more, this twist should be corrected by osteotomy.

The following is the method that I have employed: A long drill is inserted through the trochanter and into the neck of the femur while the limb is held in inward rotation. The femur is then divided by the subcutaneous method either just below the trochanter minor, or at the lower third of the shaft. The upper fragment being fixed by means of the drill, the shaft may be rotated outward to the desired degree. A spica plaster bandage is then applied to include the foot, the position of the neck being assured by the projecting drill, about which the bandages are applied. This may be removed when union is sufficiently advanced to prevent redisplacement.

In many instances the operation is secondary to arthrotomy, because one cannot be always certain that the distortion is the cause of non-success until the joint is opened. Therefore in cases in which failure is apparent after the simple manipulation the joint should be opened by the antero-lateral incision. By this means one can explore the acetabulum and test its capacity.

If a constriction of the capsule is present it may be overcome by incision and by stretching. The head is then replaced in the acetabulum, and the incisions in the capsule and in the superficial tissues are closed with sutures. One is then certain that there can be no obstacle to prevent functional transformation of the joint, if the limb is fixed for a sufficient time in a proper position. If anteversion of the neck is present, the limb is placed in inward rotation, osteotomy being deferred until the second dressing. These operations should not endanger the function of the joint, and as has been stated, they are essential supplements of conservative treatment.

It seems probable that excavation of the acetabulum, which was formerly thought to be essential to success, will be more and more restricted in its application. As the importance of curative treatment is more generally apprehended, and as the disability becomes sufficiently familiar to practitioners to be recognized (as it should be when the child begins to walk), the percentage of success by the Lorenz treatment will be greatly increased, especially when it is supplemented by the secondary operative procedures that have been mentioned.

The advantage of the original method of enlarging the acetabulum, provided, of course, that an anteversion of the neck is not present to a degree requiring osteotomy, is that it practically assures permanent reposition. Thus the long period of distortion required by simple manipulation may be avoided. Its great disadvantage is the persistent restriction of motion and the tendency towards distortion of the limb. The after-treatment usually advised is to remove the support within a few weeks after the operation, and to employ passive motion and exercises. This is, I think, an error, for the movement in the new joint, which is comparatively free and painless when the plaster bandage is first removed, almost immediately becomes restricted. Motion is then painful, and persistent flexion usually appears. For this reason I am inclined to think that the short Lorenz spica should be employed for many months, or until practical tests show that there is no longer a tendency towards deformity. Such support should be preferably removable, so that massage and voluntary motion may be employed during the later stages of treatment. But so long as local sensitiveness and pain on use or motion are present the joint should be protected. As a general rule it may be stated that the more perfect the replacement the greater the danger of restricted motion. In fact in those cases in which this restriction is absent a certain degree of anteversion of the neck is usually present, sufficient to prevent direct contact with the acetabulum. In such cases stability is assured in part by the acetabulum, and in part by the thickened capsule.

In cases, therefore, in which excavation has been required, or in which it has been performed, success is practically impossible unless the after-treatment or supervision is long continued. This may necessitate forcible manipulation under anesthesia to stretch contractions or to rupture adhesions. As a rule, in unilateral displacement the final results are satisfactory. A stable joint is assured —with restricted motion, it is true—but with the function greatly improved, only slight limp remaining which can be practically concealed by the older patients. One is therefore assured that the progressive shortening, which is constant in untreated cases, and increasing distortion and disability, which are often observed in adolescence, have been prevented.

It seems probable that in a certain proportion of cases of congenital dislocation of the hip the acetabulum is fairly normal at birth and continues to be adequate for several years. Only on this hypothesis can one account for the cases in which success is assured within a few months after reposition. In other instances the acetabulum is shallow and deformed, and the congenital inadequacy becomes more marked with age. The important question, as yet undecided, is whether such an acetabulum can be reformed by functional use. If it can be, then success simply requires attention to detail, more particularly the adapting of the treatment to the anatomical condition of the disabled part. At the present time more accurate statistics are essential.* Enthusiasts for the bloodless treatment are at pains to explain the distinction between anatomical and functional cures. Perfect function is, however, proof positive of anatomical cure, while a persistent limp is in a great majority of cases an indication of transposition. On the other hand, perfect reposition is by no means synonymous with perfect function. This is illustrated by the persistence of the limp whenever motion is restrained by adhesions or contractions.

Perfect functional success can be obtained only by the non-mutilating operations, that is to say, forcible reduction, supplemented if necessary by arthrotomy or osteotomy. The results in cases treated by this method may be distinguished as follows:

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* As a contribution to authenticated results, I may state, that at the May meeting of the Orthopedic Section of the New York Academy of Medicine, I presented ten patients cured by the Lorenz Method. In all the cases sufficient time had elapsed to assure the permanency of the perfect cure.

(1) Perfect cures; (2) transpositions; (3) failures.

The cases treated by the Hoffa-Lorenz operation may thus be classed: (1) Permanent replacement, with final results varying from practically perfect functional cure to anchylosis and deformity; (2) imperfect reposition, in cases of which there is often free motion, and the final result is usually somewhat better than after a simple transposition of the bloodless method: (3) failures, it being clear that after the open operation there is little excuse for complete failure. It may be stated that the statistics of the open operation, and to a far greater degree of the bloodless method, suffer because of the improper performance of the operations and the improper selection of the cases.

In conclusion I may state that from further experience I am inclined to these opinions: (1) That the more complete fixation that may be obtained by carrying the plaster bandage below the knee after reduction, combined in certain instances with lessened outward rotation of the limb, is an improvement on the ordinary technic of the Lorenz operation in the treatment of young children; (2) that a longer period of fixation in an attitude approximating the normal is necessary to assure the remolding of the acetabulum in old subjects; (3) that arthrotomy and osteotomy must be regarded as necessary supplements to conservative treatment; (4) that the the original Hoffa-Lorenz operation offers a prospect of a better ultimate result than transposition and that it must therefore be held in reserve as a final resort after failure of the less radical treatment.

THE ETIOLOGY OF SMALLPOX; WITH A SPECIAL REFERENCE TO ITS MICRO-BIOLOGY AND A DEMONSTRATION OF ITS MICROBE.*

BY WILLIAM SEAGROVE MAGILL, A.M., M.D.,
OF NEW YORK;
FELLOW OF THE AMERICAN ACADEMY OF MEDICINE; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION; MEMBER OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA.

AN epidemic of smallpox is invariably the result of imported contagion. Some person, coming from an already infected spot, or the introduction of already infected materials—rags, clothing, paper, household articles, etc.—brings into a hitherto virgin field the specific germs of variolic epidemic. Without the introduction of such specific germs, derived from a previously infected source, no outbreak of smallpox is possible.

Once brought into a locality the germs of this disease may be prevented from developing by the rigid sanitary precautions of isolation or disinfection, or by the acquired immunity through universal and repeated vaccination, etc., of the whole population exposed.

The germ development and consequent spread of epidemic may be, and usually is, favored by the non-hygienic condition of a locality, and particularly by the remarkably tenacious sanitary ignorance of the communities threatened, often aided by the parsimonious and stupid administration of health matters by men ignorant or careless of the threatening danger and its manifold methods of contagion and virulence.

The transmission and propagation of variola depend upon direct and indirect contagion. The direct contact may be for an interval of time so short as to be almost instantaneous and frequently unnoticed or forgotten. But even the shortest possible moment of direct application of the germ-carriers (usually desquamated epithelium) is sufficient to cause an outbreak of variola in a receptive subject. While direct contact is more certain to distribute the disease, it is less frequent than indirect, that is to say, contact not with the individual affected, but with some material object, which, by contiguity to an infected source, subsequently plays the rôle of a disease-carrier to a new individual, thus communicating to the latter the germs of the disease, which it bears indefinitely.

A similar transmission of the infection may be accomplished by the intermediary rôle of a third person or domestic animal, etc., passing from one locality to another, and this origin of a contagion is often overlooked, for the reason that such an intermediary is often itself unaffected by the disease, which it may long continue to spread.

The practice of transmitting through the mail letters from infected sources (supposedly non-contagious) is responsible for various so-called sporadic epidemics of smallpox. To insist upon this fact, it may be well to declare positively that the supposedly efficient disinfection of letters by their multiple perforation and subsequent exposure to sulphurous fumes has been demonstrated by frequent experiment to be totally delusory.

Let us then remember that variola is an infectious disease caused by the introduction of a specific micro-organism into the blood. The well-known facts of the origin (contagion), development, spread and suppression of its epidemics are all in accord with the present demonstrable microbian origin of variola.

Like every other infection of the system by a pathogenic micro-organism the invaded human organism reacts against the invading germs. Our study of the etiology then involves in its problem the consideration of the degree and power of the element of contagion, its persistence, virulence, methods of diffusion and manner of entering the human organism, the powers of resistance possessed by the system, and how the invasion is either repulsed by, or conquers, the patient, according to the factors of receptivity, immunity, etc., called into play by him.

Smallpox is contagious at every stage of its existence. Hemorrhagic cases, before their eruption, during the prodroma, show the so-called specific bodies in the blood, and have been proved to cause the variolic infection of others as early as the third and fourth day of the incubation (prodromic) period of the disease. From the first and second day of the eruption up to the stage of suppuration the degree of contagious power increases in a rapid geometrical ratio, which attains its maximum of infectibility at the moment of the formation of pus in the vesicles.

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* Read at the Thirty-fifth Annual Meeting of the Medical Society of the State of West Virginia, held at Parkersburg, W.Va., May 21-24, 1902.

The degree of power of contagion possibly diminishes as the pustules encrust themselves and dry. But the commencement of desquamation, the fall and easy pulverization of the crusts, so increases the factors of diffusion of the germs that, whether the power of the contagion be diminished or not, its danger throughout the period of desquamation is vastly increased, and *persists* until the *entire reestablishment* of a new epithelium and a disinfecting bath, a period of time often extending over 40 days.

The desquamations, excreta (including the urine, in case of hematuria) and all organic fluids and residues reached by the blood of a variolic patient contain these special bodies. They are exceedingly resistant, and if really specific are proven by direct experiment to survive air-desiccation of the crusts for at least two years. They retain an unimpaired power of contagion after exposure to the terrific cold of evaporating liquid air, after subjugation to a hydraulic pressure of 4,000 pounds per square inch, and even after being heated for a limited time at 70° C.

Their resistance to chemical reagents is still a subject of investigation, but we can here mention as noticeable their very slight resistance to the action of extremely diluted solutions of the vegetable alkaloids. The usual chemical antiseptics destroy the microbes, but with varying coefficients of efficiency, still in course of determination.

Experiments with the vaccine bodies by the method of filtration have not given definite results, although it would seem that they will not pass through under normal conditions of pressure and of preparation.

The diffusibility of variola is vastly greater than that of any other eruptive fever. Its spread is nevertheless strictly limited to contact. Contrary to the prevailing opinion, every investigation of a possible case of obscure contagion, even of those cases attributed to the neighborhood of a pest-house, ultimately establishes, that the dissemination of the disease is due to a direct or indirect contagion, as previously defined, and can never be attributed to dissemination by the wind, etc.

Persons inhabiting the vicinity of a pest-house are no more exposed to the disease, than those protected by a greater distance, provided that there be no contact with any person or thing possibly contaminated by the inhabitants of the pest-house.

In considering the factors of receptivity to variola, it is to be remembered that no age of human life is exempt from the danger of smallpox. The receptivity of the fetus increases as the infected mother approaches the period of normal pregnancy. In two cases of abortion, one at the fifth, the other the sixth month of pregnancy, the mothers suffering with confluent smallpox in both cases, the amniotic fluid and the fetal tissues themselves revealed the presence of the specific microbes of variola. It is usual, however, that an *apparent* fetal infection is noted almost solely when the birth occurs during the ninth month of intra-uterine life.

But in this connection it should be remembered that in very young children an infection of variola most closely resembles that disease in animals, a pure septicemia, and any form of eruption is there exceptional. This in itself would account for the rarity of notice of smallpox in children too prematurely born.

While dwelling upon the difference between the clinical form of this disease in a subject near the natal period and the usual, eruptive form of the adult age, it may be well to remark the prolongation of the incubation period of variola that occurs in the fetus. A child at birth may show an attack of smallpox of a much more recent date than that manifested by its mother. It is not an uncommon occurrence for the new-born child to commence eruption fully one month later than the disease was known to have commenced in its maternal parent.

Every individual exposed to a variolic contagion is not necessarily attacked by the disease. There exists an immunity of two kinds, the natural and the acquired.

A natural immunity to variola is less frequent than is found to exist for other eruptive fevers. The proportion of immunes is roughly estimated at one in 1,000. An exact statistical estimate is extremely difficult to obtain, for the reason that a natural immune may successively pass through a series of severe epidemics of variola and then be suddenly taken with the disease, often in a severe and fatal form.

The so-called natural immunity may possibly be really acquired from an intra-uterine or perinatal variolization which was never observed or has been forgotten.

It is however a well established fact that some families are hereditarily refractory to smallpox.

The immunity claimed for particular races or sects of the human family, such as Hindus, Australians, etc., has not been confirmed by facts derived from a better knowledge of those races. The pretense that racial immunity may be acquired by a long series of generations being exposed to variolic disease and a generation, by heredity, refractory to smallpox being so established is not justified. For it is a fact that the Chinese, the race for the longest known period of time exposed to the ravages of this malady, are still obliged to resort to preventive inoculation of the disease to counteract their great susceptibility to its invasion.

That a continued habitation of a very infectious locality might endow the individual with a more or less permanent immunity is admissible. But even in this case there is a probability that it was in reality an immunity acquired by an abortive attack of the disease.

It is maintained—and the fact merits the widest possible control—that throughout the course of a typhoid fever the patient remains absolutely refractory to the contagion of variola.

Natural immunity is so rare and so far from absolute that its rôle as a preventive to the invasion of smallpox is a totally negligible factor in epidemiology, but this is far from being true in the case of an acquired immunity.

Immunity from variola may be acquired, first from a previous attack. This is generally complete, but must never be considered as absolutely so, as cases of second and even third attacks are well authenticated, these subsequent invasions, however, being very rare and very mild.

An immunity obtained by a first light case of smallpox is by no means as good a guaranty of permanent protection against a subsequent attack as would be the result of recovery from a very severe variola.

The protection to be derived from an anterior experience is more positive and greater than any other acquired immunity. But a close second to it in duration of protective power and lasting effect is the immunity to be derived by the so-called protective inoculation of variola. Such a result is fully to be expected, for in fact, this is undergoing the disease itself. This method of safeguarding the people from epidemic is the constant practice of the Chinese, the Arabians of the desert, and various ignorant Indian and Negro tribes at the present day.

This same inoculation of smallpox is, I believe, the only preventive treatment provided for its people by the State of West Virginia.

The immunity acquired by the so-called and well-known method of vaccination is, when properly executed, very efficacious, but is by no means reliable for the same length of time.

The duration of the efficacy of vaccination depends upon various factors—the virulence of the vaccine lymph, the number of points inoculated, and the time elapsed since a previous vaccination. Vaccination, under the most favorable conditions, rarely determines an immunity of more than eight years duration. Usually a vaccination immunity will be found a negative quantity from three to five years after its performance. I have personally observed a negro in this State who was very satisfactorily vaccinated two years before contracting a light case of variola.

Striking statements have been made, requiring control, however, that some individuals are refractory to vaccination, but will take variola. In view of the tendency of actual investigations to identify the specific organism of vaccination as identical with the microbe of variola, although in an attenuated form, such a condition of refraction to one and receptivity to the other infection would be explained with great difficulty. This fact of possible identity of the germ in both cases tends very strongly to make those statements at least questionable.

In the usual course of infection, the suspected microbe of variola penetrates the human system by the respiratory organs, then if successful in traversing the bronchial epithelium, it enters the blood, whereby it is diffused throughout the organism, in which it lives and multiplies, producing the well-known symptoms of variola, a veritable general toxemia of which the eruption is either the mere epithelial reaction or excretion, as further investigations may determine.

The juices of the digestive tract destroy the parasites of this disease, which are incapable of entering the intact cutaneous epithelium, but easily penetrate any denudation of that surface. The transmission of the disease from mother to child is clinically well known, and by positive identification of the accusedly specific germs *in situ* their transmission through the placenta is an established fact of observation. Incidentally it may be noted that the variolization of the mother either results in the abortion of a variolized fetus or in the birth of a child without symptom of disease, but producing a characteristic eruption a few days later. In a number of cases, however, it has been noted in clinic that the child does not erupt, and the conclusion has been advanced that it was constantly immunized by the blood of its variolic mother reaching the fetus as precursor to the infecting virus, which was thus rendered inefficacious. Such an explanation is far too speculative for general acceptance. With the present possibilities of search for and identification of the specific microbe, the claim is being brought forward that the child without eruption is in reality infected by the specific disease, but in that form of pure septicemia already mentioned as common to the very young child and the prevalent form of manifestation of the disease in animals.

Another case of variola being transmitted through the placenta is found where the apparently unaffected mother, after an exposure to this infection, gives birth to an undoubtedly variolized child. The explanation of contamination of the maternal organism which penetrates to the fetus, but is unable to affect the partially immune adult tissues of the mother, offers a most attractive problem for the positive identification of the pathogenic element in the maternal blood. This work, however, has not been done on account of the extreme rarity of the prescribed conditions.

According to the number and virulence of the parasites, when their penetration of the human system is effected, the reactive tissue phenomena are more or less pronounced.

In cases of pronounced virulence of infection deep cellular lesions are provoked. The blood is profoundly altered. Marked and characteristic *mononucleosis* is invariably to be found. The specific germs are not in such profusion as would be noted for a similar infection by bacteria, but a careful examination of several fields of the microscope will generally be successful in revealing the germ sought for, particularly in the hemorrhagic cases.

Erythema and purpura hemorrhagica of the skin and mucosæ and the principal organs are frequent precursors of a fatal end. In such cases the individual succumbs without any tendency to a suppuration. He is a victim of a real hemorrhagic septicemia. If the virulence of the infection is not too great, the expulsion of the invading microbe may take place. Such evacuation of the parasite is effected by the reaction of the human organism, eliminating the objectionable invaders through the skin and mucosa by a process of successive papulization, vesiculation, eruption of the epithelium, its denudation and consequent desquamation, taking with it the pathogenic microbes, thus completely thrown out.

The formation of the papules marks the points selected for the elimination of the parasites, in the struggle against which the predominence of cellular elements filled with pus constitutes the so-called suppurative stage of the eruption.

This pus of the eruptive cells is not dependent upon adventitious pyogenic germs, but is the work of the specific agent itself, whose continued presence in the blood thus provokes a real pyemia, the termination of which is the resolutive cutaneous expulsion of the determining microbe.

Between the hemorrhagic, almost exclusively toxemic type of variola, and the more or less severe types of eruptive predominance there are numerous transition forms. Sometimes a septicemic variety is influenced by a last reactionary effort of the resisting organism, and as a result manifests an eruption of a few irregularly distributed pustules. Reciprocally, a suppurative type of variola can be modified in its progress by the development of secondary hemorrhagic symptoms. And finally a mixed form of infection is to be marked in which, from the first, manifestations of the disease appear, both the intercutaneous and mucous hemorrhages and the pustules synchronously.

Recalling that the intensity of the symptoms of a variolic invasion is dependent upon the degree of virulence of the specific germs and the factors of resistance of the individual threatened, it will be easy to understand that as soon as the form of the disease, whether hemorrhagic or eruptive, is determined by the ultimate adjustment of the invading and repelling forces thus called into play, we have still to consider the original virulence of the infection as a determinant of the degree of eruption. But in the pustulous forms the eruption is as much more intense as the specific microbes entering the organism were originally more abundant. Estimate very carefully the severity and intensity of the eruption in any given case, and by diminishing degrees, scarcely to be perceived, those cases are reached in which the pustules are exceedingly rare, or even fail entirely. Cases of this kind are the so-called abortive, which turn short at the preeruptive stage of the infection and produce no pustules.

The abortive types of a variolic infection are scarcely distinguishable and usually pass unnoticed except in times of epidemic (a possible origin of the so-called natural immunity).

In two epidemics of smallpox in West Virginia I have personally observed three cases of this abortive type. Each of them was refused by the local official quarantine officer for the reason that there was no eruption. The symptoms of these cases are typical for the abortive type of variola and were in general as follows: An individual, having been exposed to a smallpox contagion, is taken from 10 to 15 days later with chills, fever, more or less intense rachialgia, and possibly some digestive disturbances (nausea, etc.). Three or four days later the accidents subside, without the production of the slightest eruption. Examination of the blood of individuals thus affected will show the special *mononucleosis* that is characteristic of smallpox, and *"invariably suffices to fix a doubtful diagnosis."*

Since then it is known that these are abortive types of variola, that the disease invariably denotes the presence of the specific pathogenic parasites in the blood of individuals so affected, there can be no possible excuse for a failure to remove from a community of people such a constant menace of infection. Permit me to add that in the cases of my personal observation, above referred to, there was no mark or history of a previous vaccination. After their recovery from this abortive type of smallpox each of the three individuals was repeatedly vaccinated, with continuous negative results.

In closing the subject of resistance and virulence, the resolution of the varying factors of which determines the form of the disease in each individual affected, there remains the noteworthy fact that strong, robust adults are more frequently attacked by the variola and are more apt to present a development in severe type.

After a contamination by the specific germ it could frequently happen that the microbe remain inert upon the clothing, skin-surface, or in close proximity; and that the real contagion, the entrance of the parasite into the organism, be accomplished only after some days. This possibility becomes very important when the duration of the period of incubation is to be considered. A consensus of clinical experience reports that the period of incubation is from eight to nine days when the virus has been inoculated, from 10 to 14 days when the disease has been contracted by contagion.

To establish accurately the limits of this incubation of the malady, accurate experiments are reported by a physician and two medical students. A careful record and supervision of these three cases gives, for the physician and one of the students, exactly nine days and eight hours, for the other student nine days and four hours from the actual minute of exposure to the first recognizable symptom of variola.

The Study of the Variolic Microbe.—In the first enthusiasm of the discoveries of germs as determinative causes of disease the bacterial origin of all infection was very generally claimed and quite widely accepted.

The numerous announcements of the identification of a specific coccus, bacillus, or other bacterium as the cause of variola have not yet reached the end of the list, nor have their rival claims been withdrawn. But their very numbers have succeeded in creating a widespread scepticism as to their scientific value, and a strong insistence that no further immature investigations be offered.

Realizing the advantage of working in the midst of prevailing scepticism, it is a particular pleasure to be able to bring forward investigations in a field other than that of bacteria.

Remember that this variola is preeminently distinguished for its long-known specificity of "virus." With the lacking bacterial identification of a specific organism, its culture in vitro and reinoculation with production of the typical disease, we have had for centuries in smallpox syndroma the picture of a bacterial infection of the human organism; but 30 years of bacteriological investigations, some of them by the best microbiologists in the world, have totally failed to demonstrate any form of bacteria entitled to the slightest claims of specificity in accordance with the prescribed rules of the scientific method of research.

Without denying the possibility and frequency of a secondary bacterial infection of the variolic pus, it may be said that examination of such pus or other liquid or tissue of a variolic subject has repeatedly demonstrated that the material contains no bacteria recognizable by any known process of stain or culture. Nevertheless, the inoculation of such material will inevitably produce the specific infection in any properly receptive medium. Such positive inoculations of material absolutely deprived of bacteria have been made in a case of hemorrhagic variola blood being drawn from the vein at the elbow one hour before death; again, with various tissue substance from certain visceral lesions, proven to be absolutely free from any bacteria revealable by any process of stain or culture; also by an inoculation of the seropurulent liquid from a suffusion of the vaginal tunic during the course of a variolic orchitis.

By inoculation with such pus and the blood of hemorrhagic cases of variola there may be continuation in series, inducing a subsequent immunity to smallpox in some animals invariably provoking a subacute septicemia of slow fatality.

Original blood from a case of hemorrhagic variola is now being carried in a continuous series of animal inoculation and reinoculation at the Carnegie Laboratory. It invariably provokes a fatal disease in the animals chosen for experiment, with persistence of a characteristic which, when sufficient data are gathered, may be proved to be the specific agent of variola.

Every effort to establish the bacterial origin of smallpox having thus far failed, it is to be expected that its determinant etiological factor should have been sought elsewhere, and so comes the suggestion of a protozoic origin for the disease. This originated with Renaut in 1881, and was most prominently taken up by Van der Loëff and Pfeiffer. It was first directly experimented upon by Guarnieri, but was far from established in any presentation of scientific data until the recent works of Bosc and Roger in France.

By many investigators the so-called variolic bodies are supposed to represent some form of the specific agent of variolic contagion, and such investigators would seem to be in the right, although they have failed to bring forward convincing proof. This has been the aim of the work, at the Carnegie Laboratory which seeks by original methods of culture, growth and examination of every stage during life to establish the identity of this organism, to determine, whether or not it belongs to the Protozoa to study its life-history and consequently its serial morphological characteristics, and last, but most important of all to ascertain its proper metabolic relations.

Students of Protozoa, possibly because they are not sufficiently cognizant of the laws of biology, seem to forget that if we are to distinguish bacteria as vegetable, in contradistinction to Protozoa as animal, we ought first of all to expect to find important differences in their capacities for food supply and imbibition. In other words, we ought not to expect that a medium most excellent for the nutrition and growth of bacteria would therefore be adaptable to the Protozoa. To take up the study of such forms of life and limit the efforts of growth to the media devised for bacteria would possibly seem foolish from this point of view.

A knowledge which we already possess of Protozoa and their parasitic forms shows that they are found most abundantly in parasitism, as the form of animal selected for host is lower in the animal scale. This would suggest transferring any study of a protozoon parasite to the lowest form of animal life upon which the vital phenomena to be observed are capable of being produced, that is to say, by grafting the parasite in question upon the simplest form of animal capable of developing the life-cycles of the special protozoon destined for study. By this method of choosing a living culture medium were produced the proliferations of the supposed micro-organism here presented. Taken from this medium, selected for their development, and in which the rapidly increasing numbers of the microscopic forms may be seen in the blood of our selected animal we produce any degree of inoculable virulence of disease, but apparently always dependent upon the relative number and source of the micro-organisms inoculated.

In addition to choosing the simplest forms of animal life for media most favorable to the growth of parasitic protozoon, it might be suggested that the food intended for such organisms be simplified, that is, rendered more assimilable than the usual albumin forms, readily handled by bacteria. This simplification of the requisite food is also being done in the laboratory, and is apparently destined to give good results, but the multiplicity of the possible changes in food-assimilation factors is so great that the progress of the work in this field is not yet sufficiently precise to authorize its presentation.

A MODIFIED METHOD OF AUSCULTATORY PERCUSSION.

BY ALBERT ABRAMS, A.M., M.D.,
OF SAN FRANCISCO.

Various maneuvers have been advocated for topographical percussion of solid and air-containing organs. Perhaps the most accurate and certain method is that of auscultatory percussion. Its successful employment, however, postulates a definite amount of skill which can only be attained after much practice. Executed in the conventional manner, the technic is sufficiently as follows: The pectoral extremity of the stethoscope is fixed by the patient or assistant over the organ to be delimited; then percussion is practised by the clinician, beginning beyond the presumable area of the organ, and continued in the direction of the stethoscope. Alteration in the percussion-sound indicates that the border of the organ in question is reached, and this particular point is marked with a dermograph. Percussion is executed radially from different points until the entire organ is outlined.

The ordinary method of auscultatory percussion is associated with many drawbacks which even the skilled diagnostician is unable to eliminate. He requires assistance to fix the stethoscope in position. It is difficult to differentiate between the vibrations of the thorax and the sounds obtained from the underlying organ. The nuances of sound can not be appreciated as percussion approaches the stethoscope, owing to the magnification of the sounds. The primary objection, it was hoped, could be diposed of by the use of phonendoscope, stroking the skin instead of percussion being employed. The consensus of opinion, however, is against the phonendoscope as an instrument of accuracy.

The modified method of auscultatory percussion which I here advocate is suggested after several years' experience in its employment. Its accuracy I have frequently controlled by skiascopy. It embodies the principle of transsonance. It is available in topographical percussion and for determining the density of the lungs after a method which will be presently described. Percussion transsonance is obtained when the thorax is percussed either directly or indirectly at a time contemporaneous with auscultation at some remote point. In my modified method of auscultatory percussion, the clavicles, sternum, ribs or vertebræ are percussed directly, *i.e.*, without the interposition of the finger as a pleximeter. The percussion-blow is either light or strong according to whether the superficial or deep dulness is to be elicited. If, for example, the area of cardiac dulness is to be obtained, the clavicle or manubrium sterni is percussed directly, and the stethoscope is gradually carried towards the organ in all directions from the lung. The area of the heart is at once indicated by a dull tone supplanting a resonant one. A similar procedure is carried out in eliciting the upper liver-border and the splenic area of dulness. Lung-consolidation is also easy of elicitation by this method. If, for example, the transsonance of the apices is to be determined anteriorly, the stethoscope remains fixed first over one and then over the other apex, while immediate percussion is executed on a prominent vertebra. If the apices are to be auscultated posteriorly, the percussion-blow is limited to the manubrium sterni. It is possible by this method to outline the right auricle and the left ventricle on the posterior chest-surface provided the patient is in the erect posture with body inclined slightly backward. The pectoral chest-piece of the stethoscope should possess a small caliber for the better object of demarcating the outline of organs. The fact must be emphasized that during the time this method of auscultatory percussion is executed the percussion-blow on some prominent bony structure must be continuous and uniform while the stethoscope is carried toward the organ to be outlined. The percussion-hammer recently designed by Dr. Heinrich Stern of New York will prove of great value in obtaining uniform results.

The drawbacks pertaining to my method are present only in corpulent individuals in whom the well-padded bony structures will not permit the percussion-blow to be conveyed to any distance. Another drawback which is also present in the conventional auscultatory percussion is the inability to interpret the character of the percussion-sounds. This is, of course, a matter of practice. I cannot too highly extol this method, not only in topographical percussion but also in determining the resonating qualities of the pulmonary tissue. I have elicited incipient lung-consolidation when the conventional methods have failed. I have also used this method for outlining the lower border of the stomach. The method of procedure is briefly as follows: With the finger the lower ribs over the semilunar-shaped space of Traube are percussed, the stethoscope being fixed primarily in the hypochondrium in order to learn the character of the tympanitic tone. Then while percussion is continued the end of the stethoscope is gradually carried downward until the disappearance of the tone indicates that we have reached the lower border of the stomach. Dr. H. Block, of this city, a specialist on diseases of the stomach, has, at my suggestion, examined a number of cases, controlling his results by insufflation of the stomach, and he concludes that the method is undoubtedly accurate.

I have found my method of no value in determining the lower border of the liver, and for the attainment of this object I would recommend a method described elsewhere.* The method in question is: The patient is told to incline his body backward as far as possible, and to relieve the tedium of the posture the body is supported by means of the hands resting on the hips. If percussion, which must be light, is now attempted, the lower hepatic border is easily elicited. In the posture suggested we approximate the surface of the liver to the abdominal parietes, and afford a like medium for the transmission of the percussion-sound; namely, the relatively dense abdominal musculature. This method is based on a simple law of physics, that sound-waves are best conducted by the medium in which they are produced. The percussion-sound in the conventional method of eliciting the lower liver-border must pass through the abdominal muscles, and then through the air-containing viscera, before it reaches the liver.

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* The Medical News, Feb. 8, 1902.

SYMPTOMS, DIAGNOSIS AND COMPLICATIONS OF GONORRHEA.*

BY ABRAHAM L. WOLBARST, M.D.,
OF NEW YORK.

WHATEVER apology may be deemed necessary for the addition of another paper to the extensive literature on the subject of gonorrhea, may be found in the widespread opinion among physicians that gonorrhea need not be taken seriously, and that anything that will stop the pain and the discharge is good enough. On the other hand, if the subject of gonorrhea is serious enough to be worth all that has been written upon it, the diagnosis and symptomatology are worthy of serious attention.

The ease with which a correct diagnosis can be made, may be said to be in inverse proportion to the duration of the disease. The longer the disease has lasted, the more difficult it is, for obvious reasons, to make a correct diagnosis of the pathological conditions.

In spite of the ease with which the usual attack of acute urethritis can be diagnosticated, it is not rare for physicians to diagnose other conditions which bear more or less resemblance to it. In a typical case of acute gonorrhea there are three cardinal symptoms which are invariably present, and on which a fairly positive diagnosis may be made; namely, a profuse discharge, an angry-looking meatus, and cloudy urine. A tentative diagnosis, thus made, finding the Neisser gonococci in the discharge makes acute gonorrhea certain, though their absence does not necessarily indicate that the inflammation is not gonorrheal.

Subjectively, the elements of pain and frequency of micturition are exceedingly variable. Some patients suffer considerable pain, while others feel only a slight sensation of heat or burning as the urinary stream passes through the inflamed canal. In many patients there is no pain whatever, even though the entire urinary canal be involved. When the inflammation is limited to the anterior urethra there is usually little, if any, increase in the frequency of micturition; it is only when the posterior urethra becomes attacked that the frequency of micturition assumes importance as an element in the diagnosis, for this increased desire to empty the bladder is to be taken as an evidence of increased irritability in the bladder region. Occasionally, however, cases are encountered in which there is a more or less continuous desire to pass water, day and night, without any involvement of the deep urethra. This condition is caused by reflex disturbances from the anterior urethra, acting upon the bladder sphincter.

The non-specific forms of urethritis, that is to say, those which are not produced by the action of the Neisser gonococcus, are not usually very difficult to diagnose. In this classification are included those in which the urethritis is brought about by contact with menstrual or leucorrheal discharges, and irritant conditions of the urine. Instrumentation and irritant injections may also be added as exciting causes. Whether these exciting causes can produce an inflammation in an otherwise healthy urethra is still a mooted question; but there is no doubt that when the urethra is already the seat of a chronic inflammatory process, even if there be no gonococci present, any of these factors is capable of producing a catarrhal inflammation which it is important to differentiate from the gonorrheal variety. In this form of urethritis the period of incubation is usually of shorter duration than in the specific variety, and the disease is characterized throughout its entire course by less virulent symptoms than those of gonorrhea. There is a slight burning sensation on micturition, the meatus is slightly reddened and sometimes swollen, and a whitish secretion, in which the gonococci are never found, can be squeezed from the urethra. This is in sharp contrast to the virulent-looking secretion which is seen in the specific variety, though in some cases the discharge may be quite profuse. The course of the disease is not only milder in every way, but the duration is considerably less than that in true gonorrhea and it is quite certain that many of the reports of wonderfully quick cures of so-called gonorrhea were actually, though unknowingly, dealing with these simple or non-specific varieties. There are exceptional cases, however, in which the symptoms and course of the disease so closely resemble the gonorrheal variety that the diagnosis can only be made after fruitless and repeated search for the gonococci. These cases may run an exceedingly obstinate course, in spite of all and any treatment, or perhaps because of it, and occasionally a condition of sexual neurasthenia may follow.

The presence of a chancre or chancroid in the urethra may produce symptoms which strongly resemble those of simple urethritis. Chancroid of the urethra is practically confined to the lips of the meatus, though it may extend into the fossa navicularis. A recent instance in private practice which presents itself to mind, illustrating the extent to which an error in diagnosis may be carried, is that of a physician who for three weeks treated a patient, presumably suffering from gonorrhea, with daily injections with a urethral syringe, without any improvement. The patient then consulted another physician, who at once discovered a typical chancroid of the meatus. Once seen, it could not be mistaken for anything else. There was the usual amount of discharge of a watery character; the urine voided into a glass was somewhat cloudy and contained shreds, and there was considerable pain at the meatus on micturition. But there were no gonococci in the discharge at any time, and there was an indisputable chancroidal ulcer surrounding the lips of the meatus, both of which important facts the first physician failed to notice. He also failed to observe that the injecting syringe caused the patient agonizing pain every time it was brought into contact with the meatus, this being a most unusual occurrence in the various forms of urethritis, except in very severe inflammations.

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* Read at a meeting of the Eastern Medical Society, New York, May 9, 1902, in a symposium on "Gonorrhea."

The primary lesion of syphilis may extend as far back into the urethra as three or four inches. When it is situated at the meatus the typical induration and general appearance make the diagnosis a matter of no great difficulty. When the chancre is deep-seated the induration can be felt and the diagnosis thus made. The absence of pain and tenderness on pressure, and the absence of gonococci from the discharge, differentiates this condition from peri-urethral abscess.

Where phimosis exists, and retraction is impossible, there may be a little difficulty in making a correct diagnosis of the existing trouble. The preputial cavity must be thoroughly washed out with a small glass syringe, and the discharge, which can be pressed out of the urethra, is then examined microscopically. The urine can be collected in glasses for the usual examination. A chancre hidden by the prepuce may easily be felt by the hand; and as for chancroid, the presence of painful bubo, tending in most cases toward suppuration, may be relied upon as a guide in diagnosis.

There is one other condition which may simulate simple urethritis. This has been described as syphilitic urethritis, and is found in the secondary stage of syphilis. With the urethroscope, the mucous patches or the roseola by which this condition is caused may sometimes be seen. Moreover, secondary lesions in other parts of the body aid in making the diagnosis.

These various lesions are to be thought of whenever a patient presents himself with symptoms that are *not* typical of *acute* gonorrhea. In the typical cases the symptoms are clear and unmistakable, and the microscope will usually correct any error that may be made.

The first step in making a diagnosis in a case that looks typical is to take a specimen of the discharge, by means of a sterilized platinum loop, for microscopical examination. The common practice of pressing a glass slide against the meatus cannot be recommended on any ground whatever. All that might be said in its favor is that there is a questionable saving of time, an item of importance in a crowded dispensary practice. In private practice, however, it deserves the severest condemnation. The second stage in the examination is to determine whether the inflammation is confined to the anterior urethra or has extended to the posterior urethra as well. The anterior urethra is thoroughly washed out with a warm, diluted solution of methylene-blue or potassium permanganate, until the drippings come away perfectly clear. The patient then passes his urine into a clean glass. If the urine thus passed be clear the inflammation is limited to the anterior urethra alone; if it be cloudy, or contain shreds, the posterior urethra is also involved. This is known as the Jadassohn-Goldenberg test, and when properly performed is absolutely reliable. In doing this test the patient must be cautioned not to pass any of his urine while the anterior urethra is being washed out, and furthermore, the test is of value only when the urine has been retained in the bladder for at least four or five hours. The longer the urine is retained the more reliable and satisfactory this test will be found.

By this method the gross fallacies of the Thompson two-glass test will be avoided. In this connection, too, mention must be made of the importance of determining whether cloudiness of the urine is due to the presence of pus or of phosphates, the latter being often carelessly mistaken for the former.

These preliminary steps having been taken, the physician is prepared to treat the case intelligently, for an intelligent and useful therapy can only be instituted when the exact nature and extent of the inflammation is known.

Extension of the inflammation to the posterior urethra is by all means the most frequent complication of acute gonorrhea, and so frequently does this occur that some writers have gone to the extreme of declaring that posterior urethritis is no complication at all, but that it occurs to a greater or less degree in cases of gonorrhea, with few if any exceptions. This position seems to be hardly tenable, for cases are often met with in an extensive practice in which there are not the slightest symptoms, subjective or objective, which point to posterior involvement. More conservative authorities differ widely as to the frequency with which the posterior urethra is attacked, the figures ranging from 80 per cent. down to 20 per cent. in selected cases. The higher figures seem unnecessarily high, in view of the excellent results which may be attained with the modern methods of treatment when properly carried out, all of which tend to the prevention of posterior involvement, if the cases are seen early enough and treatment at once begun. It is also quite likely that some of these figures may have been based on cases in which the diagnosis of posterior urethritis was made by the Thompson two-glass test. Cloudy urine in the second glass may easily lead to this error, yet the pus in the second glass may come from the anterior urethra.

The symptoms of acute posterior urethritis may be so mild as to give the patient little or no pain or discomfort, or they may be severe enough to confine him to his bed. The extension from the anterior urethra usually occurs in about the third week of the attack, though it has often been seen in severe cases as early as the second or third day. The diagnostic symptoms of posterior involvement are increased desire to empty the bladder, a dull aching pain at the meatus urinaris, or in the perineum during or after this act, and a diminution or cessation of the discharge from the meatus. The Thompson test shows pus in both glasses, and after irrigation of the anterior urethra the urine passed also contains pus. Hematuria is not seldom seen with this complication, the blood usually appearing after the last drop of urine has been passed. It is an important and noteworthy fact that the extension of the inflammation is not attended with constitutional disturbances of any kind. An index to the severity of the inflammation may be had by noting the frequency with which the patient is called upon to empty his bladder. In severe cases there may be a constant desire to meet this demand, both by day and night, but a few drops of urine being passed each time, accompanied with more or less pain, and followed by several drops of blood. Painful erections, recurring at frequent intervals, make the patient fully regret his moment of joy and infection, and if the anterior urethra be still the seat of an acute inflammation, chordee will appear, to add to his days of despair. In passing, it may be well to note that in posterior involvement of the urethra the frequency of micturition is increased both day and night, while in neurasthenia there is no nocturnal increase in the desire to empty the bladder except in rare instances.

The cessation of the discharge is not to be considered as evidence that there is less pus in the urethra than there was before the extension into the posterior occurred. It means that the pus, instead of flowing forward towards the meatus, is flowing backward towards and into the bladder. This is often made manifest by the urine in the second glass presenting more pus than is seen in the first glass.

The complications following the extension of the inflammation from the posterior urethra constitute a good-sized list. Whether the healthy bladder itself may be the seat of gonorrheal inflammation, is not definitely settled, though the vesical neck is nearly always involved, owing to its close proximity to the posterior urethra. What is often spoken of as acute gonorrheal cystitis is in reality posterior urethritis with involvement of the vesical neck. It is quite possible, however, for a bladder previously diseased by the inflammatory products of other germs, to become the seat of gonorrheal infection. This is seen not infrequently in men suffering from hypertrophied prostate, in whom the catheter and instruments have been the carrying agent of a gonorrheal infection to the bladder.

The genital tract, as differentiated from the urinary tract, is the most common seat of gonorrheal complications, owing principally to anatomical and physiological conditions. The inflammation attacks the ejaculatory ducts, and rapidly extends to the seminal vesicles. This complication is acutely painful, and is accompanied by high fever. The constitutional weakness may be marked. Diagnosis is made by rectal examination. The inflamed vesicle is hot, exquisitely tender to the touch, throbbing, and more or less swollen. The surrounding tissues may also be involved, leading sometimes to abscess formation, and in rare cases to a local or even a general peritonitis of an alarming type. There is also a very characteristic pain in the hip of the affected side, which radiates downward on the outer side of the thigh, and which may sometimes be mistaken for rheumatism of the hip-joint. In the severe cases with local peritonitis the symptoms bear a striking resemblance to those of acute appendicitis, from which of course it should be differentiated in suspected cases by rectal examination.

The gonorrheal infection may also attack the mucous follicles of the prostate, sometimes resulting in inflammation of the gland structure proper. It is quite likely, too, that peri-urethral abscesses may occur just beneath the wall of the prostatic urethra, which point towards and open into the urethral canal, and which are often improperly diagnosed as prostatic abscesses. The prostate is, however, very commonly, perhaps in every case, the seat of congestion and hyperemia, as the result of the posterior inflammation. There is a sensation of dulness and pain in the perineum and in the region of the rectum, with rectal tenesmus and painful defecation. When the prostate is examined, it is found tumefied to a variable degree, hot and tender, and projecting more or less into the lumen of the rectum. The inflammation of the prostate and vesicles may not be attended by subjective symptoms of any kind; hence the importance of making a rectal examination in every case of posterior urethritis.

Epididymitis is not an uncommon complication, and owing to the ease with which it can be diagnosed little need be said about it. It may occur at any time during the existence of an acute or a chronic posterior urethritis, and is liable to recur with each recurrence of the gonorrhea. The amount of pain and swelling is quite variable. Most patients are compelled to take to their beds very quickly, while some go about their daily work without interference. A prodromic symptom which the writer has often noticed, though never seen recorded, and which is of great value in announcing the approaching inflammation of the epididymitis, is the sudden disappearance of pus and shreds from the urine in the midst of a severe attack of posterior urethritis. This symptom may not be infallible, but it has been seen often enough to deserve serious recognition. When it appears an attack of acute epididymitis may be expected in from 24 to 48 hours. It is quite likely, too, that many of those mysterious cases of recurrent epididymitis without discoverable cause, which are seen in elderly men in whom existing gonorrhea is not to be thought of, may be directly traced to long-forgotten attacks of gonorrhea in youth. Close study of these cases indicates that the epididymis may become inflamed many years after the disappearance of the urethral attack. At any rate, it is not uncommonly found that the urine in these cases contains shreds, which point to the presence of chronic urethritis of a very mild type.

Cowperitis or inflammation of Cowper's glands may be classed as one of the rare complications of gonorrhea. The diagnosis is made by the characteristic symptom; namely, a hard, painful tumor on one side of the median line, in the perineal region, rendering sitting and walking exceedingly painful or even impossible. The abscess may reach a large size, and rupture into the rectum or externally into the perineum.

The diagnosis of peri-urethral abscess, not an uncommon complication, is not usually attended with difficulty. The region around the frenum is the favorite seat for this complication, though the cellular tissue surrounding any part of the urethral canal may be attacked. In its early stages it may be mistaken for a chancre of the urethra; later, however, it grows in size, becomes painful and tender, and may finally suppurate. When it is situated along the membranous or prostatic urethra it may attain a considerable size, and constitute a mechanical obstruction to the urinary flow, even to the point of complete retention. When the abscess ruptures into the urethra urinary extravasation, with all its sequelæ, may follow. Rupture into the urethra of an abscess situated anywhere along the urethral tract is indicated by a sudden increase in the flow of pus from the meatus and a diminution or cessation of the pain.

A somewhat frequent and exceedingly painful complication is the inflammation of the joints, bursæ or tendon-sheaths, commonly known as gonorrheal rheumatism. Any joint, bursa or tendon-sheath may be attacked, and the degree of the inflammation may be mild or severe. The effusion may consist of serum or pus, or both, and often contains gonococci. In doubtful joint cases the wise surgeon always examines the urethra and the urine for evidences of acute or chronic gonorrhea, often with surprisingly happy results. The rheumatism may extend and cause an inflammation of the pericardium, with effusion. The pleura may also be attacked. One attack of gonorrheal rheumatism predisposes to others, which may recur with every exacerbation or new attack of gonorrhea.

Gonorrheal ophthalmia is the only one of the complications which can be positively prevented. The infection is carried to the eyes from the urethra by the hand, or by towels or clothing on which the gonorrheal discharge, with its gonococci, has been deposited. The symptoms are so typical that once seen the condition is not likely to be mistaken for anything else. Moreover, the presence of gonococci in the pus removes whatever doubt may exist as to the correct diagnosis. In considering the subject of chronic gonorrhea, with reference to its symptoms, diagnosis, and complications, it is well to remember that we have to deal with a chronic inflammatory process, similar in general to a chronic inflammation in any other part of the body. The pathological changes affect the epithelial lining of the canal, the mucous glands and follicles, and the stroma itself.

After an acute gonorrhea has lasted eight or ten weeks it becomes chronic. There may be few gonococci in the tissues, and they may with difficulty be reached; but they are factors to be reckoned with, for they are liable under the proper stimulus to reawaken at any moment and demonstrate their powers. It may be broadly stated, without fear of contradiction, that the case is rare indeed in which an acute gonorrhea has been so completely cured as to leave no gonococci in its wake. The anatomical structure of the parts involved, predisposes to and induces chronicity, owing to the difficulty with which the deeply lodged gonococci can be reached, for the posterior urethra and the adjoining genital tract are in nearly all cases the seat of this form of inflammation.

Lesions of chronic urethritis may sometimes be seen with the urethroscope. Numerous areas may be seen showing various degrees of congestion, excoriation and granulation. The inflammation of the mouths of the lacunæ and follicles can easily be seen in well-marked cases.

Objectively, the most frequent and annoying symptom of chronic urethritis is the discharge at the meatus, usually not more than a drop resting snugly between the lips of the meatus, and coming out into the world, when the host presses it from its resting-place with his fingers. This drop is best seen in the morning, after the accumulated secretions of the night have gravitated forward to the meatus. When the patient with chronic urethritis awakes in the morning, the first thing he is apt to do before breakfasting, is to "look at" his drop. He seizes his penis with both hands, hurls a few choice oaths at his doctor, and begins to milk the organ vigorously, thus collecting all the contained secretions, normal as well as abnormal, which he contemplates with feelings that are more easily imagined than described. The drop collected in this manner, contains mucus, pus and epithelial structure, and possibly gonococci.

In chronic gonorrhea the history is an important aid in making a correct diagnosis. It is not often to be accepted, however, without due allowance being made for the chaff that always goes with the wheat, for these patients, in the course of their wanderings from physician to clinic and back again, soon lose sight of their original trouble, and by a process of addition and multiplication acquire and present a group of symptoms that is quite appalling. It is for these unfortunates that the busy or careless physician prescribes a laxative mixture or a nerve-tonic, with the injunction to "call again" when the bottle becomes empty, paying no attention whatever to the pathological conditions which are the basis of the existing neurasthenia.

The first thing to do in making a diagnosis is to follow the steps described in considering acute gonorrhea; that is, to examine the secretions, and determine whether the discharge comes from the anterior or posterior urethra, or both. Careful examination should then be made to determine the presence or absence of organic strictures in the urethra, care being taken to exclude reflex spasms. The prostate and seminal vesicles are then examined, and finally the urethroscope should be employed. With these measures a fairly positive diagnosis can be made without much difficulty, or liability to error. It may be added parenthetically that if it were as easy to treat this condition successfully as it is to diagnose it, the percentage of cures would be considerably increased.

Chronic anterior urethritis is not commonly seen alone. When it does occur the diagnosis can easily be made if the steps mentioned above are taken.

Chronic posterior urethritis presents many features of interest. In addition to the discharge there may be neuralgic pains, referred principally to the glans penis, and slight burning on micturition. Owing to the close intimacy existing between the genital tract and the nervous system many nervous symptoms are developed in the train of chronic gonorrhea. These symptoms range from slight pains in various parts of the body, to severe and complete melancholia. The sexual functions, and the digestive apparatus are most likely to suffer. Chronic constipation, and poor appetite are the rule. When the prostate and vesicles are inflamed and enlarged the pressure of the fecal masses during the act of straining at stool expels the accumulation of mucus and pus, which adds to the demoralization of the patient. To enumerate all these symptoms would constitute a treatise of no mean proportions. Suffice it to say that there seems to be no end to the number and variety of the neurasthenic symptoms which may follow chronic gonorrhea.

The important point to remember is that these symptoms are dependent upon the gonorrheal lesions somewhere in the genito-urinary tract. These lesions must be discovered and suitably treated, before the symptoms can be expected to disappear. An important aid in making these examinations is a meatus of normal size; and if the meatus be of subnormal caliber considerable relief from symptoms and better facilities for examination will be afforded by the operation of meatotomy. The prostate and vesicles, if inflamed, can be felt by the finger in the rectum. They are usually somewhat tender to the touch, and on pressure give the patient an indescribably sickening sensation, which makes him shrink from the finger. The vesicles, unfortunately, are not always within reach of the finger. In these cases little can be done to bring the organ within reach, except counter-pressure with the free hand on the groin of the same side.

The complications which were mentioned in connection with acute gonorrhea are liable to be associated with chronic gonorrhea, especially epididymitis and rheumatism.

In conclusion the writer would urge the great importance of making a correct diagnosis in inflammatory conditions of the urethra. If physicians were to pay more attention to this subject than they usually do, fewer advertising charlatans and quacks would be owning real estate and driving fast horses.

THE USE OF SALICYLATE OF SODIUM IN THE TREATMENT OF PNEUMONIA.*

BY A. FRANK TAYLOR, M.D.,
OF CASTLE CREEK, N. Y.

IN the "Medical Record" of April 22, 1899, there appeared an article by Dr. Wm. Sebring of Kingston, N. Y., on the treatment of pneumonia with salicylic acid, which was so free from egotism and written in so modest a manner withal, that I could not help admiring the author's style. He commenced by saying, "A disease with a hundred remedies is a disease without a cure, and it may seem like a work of supererogation to add another to the list," and further on he remarks that he came to use it "through as egregious a blunder in diagnosis as a young physician ever made." He then gives a list of over one hundred cases treated with it with uniform success. Some of his patients were not only aged men, but intemperate as well.

From the middle of last January I have had 25 cases and have essentially followed the plan as given in Dr. Sebring's paper. In age my patients have ranged from an infant only twenty-two days old to a hard-working but frail woman of sixty years. Most of them have been children from one to six years of age. Out of the whole number thus far I have lost but one—the infant twenty-two days old, which did not live quite seventy-two hours after the commencement of the attack. One child of thirteen months had convulsions, with a temperature of 106⅗° F. and usual symptoms. Although this high degree of temperature was attained during three or four days, the child made an uneventful recovery, and in about 10 days was out of my care.

Another infant eight months of age, was unable to nurse for nearly 36 hours on account of the hurried breathing. Nourishment was given from a spoon, and prompt recovery followed the usual treatment. A woman, nearly sixty years of age, was apparently one of the most desperate cases it has ever been my fortune to treat with success. For 24 hours her breast, neck and lower part of the face were markedly cyanotic. Her lesion was a double pneumonia complicated by serious heart-trouble, which of course added much to the danger. She also made a fairly prompt and a complete recovery.

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* Read before the Broome County (New York) Medical Society, July 2, 1900.

The other cases were of average severity, but the hygienic surroundings of some of them were neither of the best nor conducive to recovery. The cases were not confined to any one locality, but were scattered over quite a wide area, some of them being as much as 10 miles apart.

The plan of treatment as given by Dr. Sebring was to give salicylate of sodium in eight or ten grain doses once in two hours, and also to use whatever other treatment the exigencies of the case seemed to demand. I did not follow him precisely, but to adults gave 15 grains salicylate of sodium once in four hours and medium doses of veratrum viride and aconite combined once in four hours until temperature fell, then lessened the salicylate, all the time using a mixture of turpentine and lard on the chest, with a covering of flannel and a rubber dam. In treating my cases this way I seldom found any necessity for using opiates, since whatever pain existed seemed to yield to the salicylate. A little codeine or heroin combined with muriate ammonia, etc., to alleviate the cough, was usually the only narcotic that entered into the treatment.

I fully realize that success in one or two cases with a certain line of treatment does not entitle it to perfect confidence, but when 25 cases, some of them of extreme severity, are brought to a successful termination, it certainly entitles that treatment to consideration.

It is not at all improbable that many physicians have used this mode of treatment, and that I have not been able to present any thing new. If such be the case it would be interesting to know some of their results. The plan is not original with me, but I have simply benefited by the broad experience of another.

MEDICAL PROGRESS.

OBSTETRICS AND GYNECOLOGY.

Chlorate of Potash in the Treatment of Habitual Abortion.—Probably the majority of cases of habitual abortion are caused by such systemic conditions as syphilis, and by such local lesions as metritis and deviation of the uterus. There are also alterations and degenerations of the decidua and placenta for which no good explanation can ever be given. Consequently one finds young women aborting, in spite of the well-known methods of correcting the tendency. S. REMY (Sem. méd., Sept. 24, 1902) has been experimenting with chlorate of potash in this matter in the following way: The method was originally suggested by Sudsen. Just as soon as the woman knows that she is pregnant he gives her 0.20 grams of chlorate of potash, and continues the treatment during the whole of gestation, except the last few weeks, lowering the dose to 0.15 grams. Thus far he has not seen one case of failure of the treatment, even in women who had always aborted previously. His theory of the action of the chlorate of potash is that it gives up its oxygen, in part at least, to the economy.

Ectromelus.—Complete ectromelus is rather a rare condition, partial ectromelus, affecting one extremity, much more common. JOHN H. MCGIBBON (Lancet, Sept. 20, 1902) reports a case of a female child in whom both the upper and lower extremities are absent. The stumps of the lower extremities end in fleshy nodules, but those of the upper extremities are rounded, as after an ordinary amputation. Bones may be felt in all the four stumps. The child is the fourth of the family. There is no history of shock or maternal impression, and no trace of any deformity in the other children of the family or their relatives. During the last stages of pregnancy the mother suffered much from pain in the abdomen. False labor came on, and persisted for 48 hours before the os relaxed. On account of this, he was called to see the case by the midwife in charge. The child is otherwise healthy and vigorous. On the nose is a large red birthmark.

Direct Examination of the Female Bladder.—Cystoscopy, as originally practised, is not free from many inconveniences. It necessitates, in brief, a preliminary injection into the bladder of a set quantity of fluid; but this fluid may in part escape, while that which remains behind perhaps becomes stained with the blood. The renewal of this fluid from time to time is also necessary, interrupting exploration. Moreover, the cystoscope itself does not furnish a direct image of the surface of the bladder. On account of these obstacles and others which are well known, T. DEHOTT (Sem. méd., Sept. 24, 1902) had advised the following means for inspecting the bladder directly. The patient lies upon an inclined plane, at 45 degrees, and the surgeon introduces into the bladder two curved retractors, about six cm. long and one cm. wide, which results in the entrance of a certain amount of air into the bladder, with a consequent dilatation. In the concavity of one of these retractors or valves a small incandescent electric lamp is fixed in such a manner as to permit the interior of the bladder to be well seen, and also, if necessary, catheterization of the ureters to be carried out. General anesthesia, without being necessary, is useful for rendering this examination easy and complete. This method of inspecting the bladder must necessarily be carried out with careful antiseptic precautions. He claims that this procedure has the advantage of being very useful and convenient. The amount of dilatation of the urethra is not enough to cause incontinence of urine.

Hysterectomy in Cancer of the Uterus.—The usefulness of surgical interference in cancer of the uterus seems very doubtful to anyone who attempts to gather statistics of results. Thus S. POZZI (Presse méd., Sept. 17, 1902), in a series of 204 cases, records but two cases of prolonged survival—one patient lived six years after her operation, and the other is still living after 10 years. Hysterectomy is not justifiable at all, writes this authority, where the neoplasm has passed beyond the limits of the uterus and caused this organ to become fixed to the surrounding indurated parts. The rôle of the neighboring lymph-nodes in terminal accidents and in postoperative recurrences has been exaggerated. Ureteral compression is rarely due to adenopathy, but usually results from the gradual infiltration of the neighboring cellular tissue. Postoperative recurrence is often due not to the disease of distant lymph-nodes but to the infiltration and subsequent ulceration of the cicatrix itself. Abdominal hysterectomy is a graver operation than the vaginal operation, inasmuch as it increases the chances of infection. It must be reserved for special cases, in which the vaginal operation is rendered difficult by extreme contraction or atrophy of the vagina, by the great friability or the disappearance of the cervix, or by the extensive invasion of the vaginal culs-de-sac. Where morcellation would have to be practised if the vaginal route were followed, as in voluminous cancer of the body of the uterus or in cancer complicated with fibroma, pregnancy, pyometra or pyosalpinx, laparotomy may also be preferable. In cases of extensive induration the abdominal operation permits the surgeon to follow neoplastic train and above all to free the ureters from tissues which have lost their pliancy. Vaginal hysterectomy remains the operation of choice in cases in which the uterus is still movable and the neighboring parts pliant.

Extirpation of the Uterus Through the Vagina.—In reporting a case of carcinoma of the uterus, complicating the sixth month of pregnancy, and necessitating the removal of the uterus through the vagina, E. SCHROEDER (C'blatt Gyn., Oct. 4, 1902) presents the following points on the position held to-day relative to the choice of methods for doing such an operation. The rather unfavorable prognosis with respect to a permanent cure which, up to the present time, extirpation of the uterus by the vagina during pregnancy has given, would indicate that so far as this patient was concerned, a more suitable method should have been chosen. Schuchardt's procedure for the radical removal of the uterus through the abdomen was duly considered, but was rejected because the writer is one of those authorities who are not yet convinced of the undoubted value of this method. He grants that the abdominal operation is a radical one—indeed, much more so than the vaginal—but unfortunately the facility with which it can be accomplished is not always present in a given case. Moreover, the difference between an upper and the lower routes for the removal of these cancers, from the standpoint of permanent cure, is so slight that it is probably unfair to subject the patient to the added risk of the more serious operation.

NEUROLOGY.

Tumor and Abscess of Brain.—A few interesting cases of cerebral tumor and abscess are reported by S. KOPCZYNSKI (Zeitsch. klin. Med., vol. 46, Nos. 1-4). In the first the diagnosis of cerebellar neoplasm was made owing to the very prominent general symptoms (intense headache and nausea, choked disk with atrophy), cerebellar gait and involvement of a large number of cranial nerves. A sign, which greatly aided in determining the side of the lesion was the presence of widely dilated veins over one half of the head and face. The affection of the cranial nerves more on one side also aided in this direction but not the unilateral spastic paresis with paresthesiæ since these occur only in half the cases on the same side. Similarly the tendency to fall in one direction may be misleading. The second case, also a tumor cerebelli was remarkable owing to frequent attacks of tonic convulsions of the neck and back muscles which were accompanied by a much slowed, irregular pulse, superficial and irregular respirations, salivation and difficulty of deglutition, no doubt resulting from pressure on the medulla oblongata. The knee-jerks were absent at one time and increased at another. The third patient was found to suffer from a tumor at the base in the neighborhood of the pons, since an alternating hemiplegia was found. The choked disk here was on the side opposite to the tumor. Case four proved to be a temporal abscess which, owing to marked choked disk, epileptic attacks dating back several years, and the absence of all etiological factors, was first regarded as a tumor until the marked somnolency and rapid development of total hemiplegia led to the proper diagnosis. Though the exploratory puncture was negative, a large abscess was found on autopsy. In case five an abscess of the frontal lobe could be suspected owing to onset with chill, constant stupor, slowed pulse, and slight rise of temperature. Much easier, from a diagnostic point than all these cases was the last one, where discharge from the ear, coma and facial paralysis pointed to abscess. Yet meningitis had to be considered, but was improbable, owing to absence of fever and symptoms of meningeal irritation and presence of a slow pulse and somnolency.

Arsenical Neuritis.—A good account of arsenical neuritis, based upon the observation of three cases is given by W. SANOWSKI (Zeitsch. klin. Med., vol. 46, Nos. 1-4). Both acute and chronic intoxication may include paralysis, but the former is rare, since death generally sets in too rapidly. The most frequent causes of the latter are arsenic eating, the therapeutic misuse of such preparations as Fowler's solution, intimate contact with stuffed animals, which are often prepared with a strong arsenic paste, the living in rooms with green wall-paper, and lastly certain trades in which the metal is freely used. The course is very much the same, no matter whether the intoxication is acute or chronic, and the time of development of the nervous symptoms varies considerably in the chronic cases and in the acute, generally by about the tenth day. There are first pains in the extremities, which subsequently become paralyzed; then follow the paresthesiæ, and finally the paralyses, with atrophy, contractures and ataxia. Trophic and vasomotor disturbances are irregular as to the time of their appearance. The most frequent seat of the paralysis is the lower extremities, but the other limbs and the cranial motor nerves may also be involved, and the onset may be in the arms. Ultimately, in most cases all four limbs are affected. In the diseased parts, the most distal portions suffered most severely, and in the legs the perineal and anterior tibial muscles are generally paralyzed first, together with the extensor longus hallucis, digitorum communis, and the interossei of the thigh muscles. The vastus externus seems to be most vulnerable, while in the upper extremity the order is, radial, median and then ulvar muscles, the internal interossei but rarely escaping. Of all the types of neuritis, contractures are most frequent in the arsenical, and not rarely surgical aid is demanded to correct them, though with energetic treatment much may be done. Signs of motor irritation are not rare in the form of muscular tremor and even athetoid moterus and tonic contractions. The atrophy often reaches a pronounced degree. Turning now to sensory symptoms, it is found that the pains are generally the first and most persistent, and they vary much in their severity, character and position. The most common of paresthesiæ is formication. Pressure on the nerve-trunks may be intensely painful, and not less so pressure on the muscles directly. The various sensations are affected as follows: The tactile sense is diminished or absent, leading to anesthesia of the fingers and toes and even of the hands and feet, and the transition between the two zones is a gradual one; the sense of pain is heightened; the temperature-sense is normal or diminished; the sense of pressure and localization is normal, and the muscular sense is diminished or absent in the peripheral parts. A prominent symptom, which has been too often disregarded, is the diminution or absence of the stereognostic sense by means of which the form and contours of an object are determined. Finally, the electrical sense is more acute. Reaction of degeneration may be present; the skin-reflexes are most often normal, the tendon-reflexes absent. A number of different vasomotor symptoms may occur, such as eruptions, swelling of the feet, coldness and cyanosis, fever, sweating of hands and feet, etc., while trophic disturbances are pigmentation, glossiness, malnutrition of hairs and nails, etc. In a few cases the bladder and rectum seemed to be affected. Ocular disturbances are rare, but amaurosis and even optic neuritis have been described. Disturbances of hearing are still more rare, and psychical symptoms are likewise not much seen. The course and duration depend upon susceptibility and degree of poisoning. The patients are generally entirely well in one and one-half years, the prognosis is good, and recurrences only come with renewed exposure. The first principle in the treatment consists in the removal of the poison. The pains are to be controlled, and iodide of potassium often does good service. During the later stages electricity and massage are in place.

PEDIATRICS.

Buttermilk for Nurslings.—An instructive account of a series of clinical tests of buttermilk as a food for infants of nursing age is that of B. Salge (Jahrb. Kinder., Bd. 55, S. 1.), who utilized this means for the nourishment, partial or complete, of 119 infants. The milk used was recovered from sour cream and contained 2.5 per cent. of albumin, 0.5 to 1 per cent. of fat, and from 3 to 3.5 per cent. sugar. The acidity equaled 7 c.c. normal NaOH for each 100 c.c. of buttermilk. The milk should be used within 24 hours after churning, and must be obtained from a reliable source. The ordinary buttermilk of the shops is unclean and dangerous. The buttermilk used in Hebner's clinic is prepared as follows: Fifteen grains of wheat-flour are stirred up with a tablespoonful of cold buttermilk; the remainder of the buttermilk is then added, together with 60 grams of sugar. This preparation is slowly heated, being meanwhile constantly stirred; the milk is allowed to boil up in about 15 minutes, and is then poured into previously sterilized bottles, closed with rubber stoppers. Further sterilization is unnecessary. The nutritive value of this mixture is very high, being 714 calories per liter. Most infants readily accept this food, either alone, or alternately with "malzsuppe" or with human milk. The stools of infants so fed are normally of moderate volume, slight odor, neutral or slightly alkaline reaction, homogeneous and yellow. The absorption which occurs is estimated at 90 per cent. of albumin, 93 per cent. of fat. Buttermilk was tested with satisfactory results as the first food given after acute digestive disturbances. Among 119 cases the results of buttermilk-feeding were satisfactory in 85 instances. Of the 34 infants who did not thrive on this diet only four were successfully nourished by other means; 30 failed to do well on any other diet, several going into decline even when entrusted to wet-nurses. In large clinics the low price of buttermilk is an important consideration.

Mercurial Flannel in Syphilis.—As a substitute for the ordinary methods of administering mercury in syphilis it is proposed by Bouveron (Gaz. Lebdom. med. et Chir., Sept. 18, 1902) to use bandages impregnated with mercury. Prepared by Bouveron's method, these bandages contain about 10 grams of mercury per running meter. The patient winds a meter of gauze about his neck before going to bed; absorption of the drug proceeds during the night with sufficient energy to produce promptly an intense mercurialization of the organism. This method is similar to that previously proposed by Merget and has been made the subject of a series of experiments at Bordeaux. The dose of mercury disengaged by the flannel is proportionate to the evaporating surface. The method is apparently analogous to common inunction.

Albumosuria in Diseases of Children.—The significance of albumose in the urine has been studied clinically by P. Valvasori (Pediatria, Year X, No. 8, 1902), who finds that in inflammatory conditions (intestinal and bronchial catarrh, bronchitis, bronchopneumonia) increase or diminution of albumosuria constitutes an indication of extension or regression of the morbid process; and from the quantity of albumose in the urine the severity of the malady may be gauged. Of even greater import is albumosuria in suppurative conditions such as empyema, hepatic abscess, etc., in which the intensity of the albumose reaction may be considered as an index of the virulence of the pyogenic organisms and of the destructive process going on in the tissues. In like manner does decrease of albumose point to approaching resolution. In specific inflammations such as tuberculosis, albumosuria is a frequent symptom; the amount of albumose being less in localized forms. In ileotyphus and varicella albumose appears almost constantly, and for the most part in the advanced stages and when the morbid process is declining. Among nervous diseases, chorea is not infrequently accompanied with albumosuria generally of short duration; and the symptom does not seem to bear any relation to the period of the disease or to its gravity. Albumosuria does not occur in anemia. In none of the conditions named, does heteroalbumose appear in the urine.

Buttermilk in the Feeding of Sick Infants.—Lauded by the Holland physicians and prepared according to their prescriptions, buttermilk is a good therapeutic aliment for infants affected with acute or chronic diseases, according to A. Baginsky (Rev. Hy. et Méd. Inf., Oct., 1902). The buttermilk used in the author's experiments contained cream rendered acid by the lactic-acid fermentation, and freed from the greater part of fatty matter by the extraction of butter. It was delivered as fresh as possible and the cream exposed no longer than 24 hours to the lactic-acid fermentation. It was then treated as follows: To a liter of buttermilk there were added 25 grains wheaten flour and 35 grains cane-sugar. It was then put to boil for at least two minutes, mixed continually and allowed to boil over three or four times. It was then placed in bottles previously sterilized in boiling water, stoppered with sterilized corks, and placed in the refrigerator. Before serving it was raised in the water bath to the body-temperature. Thus prepared, buttermilk seems to represent *a priori* no less than the equivalent from the chemical standpoint, of the ideal nourishment of the infant. It is well borne sometimes after the acute crises of dyspepsia and diarrhea with vomiting. Employed as an aliment and as a remedy, it can absolutely save lives of infants attacked with chronic diseases of the stomach and intestines. As to its utility when employed as a food for a long time, it is not possible to say until a greater number of observations have been made. Neither rickets nor scurvy has been observed following its prolonged use.

BACTERIOLOGY.

Cultivation of Lepra Bacillus.—A successful attempt to grow the bacillus of leprosy is reported by G. Van Houtum (Jour. Path and Bact., Sept., 1902). A mixture composed of one-third beef broth and two-thirds fish broth proved to be the best medium for at 36° C. there occurred within 24 hours a general turbidity, and at the bottom of the tube a small viscid, coherent deposit. In the hanging-drop the bacilli were either single or in chains, and many moved slowly though distinctly. After the bacilli had for several generations grown on this medium they also grew on beef broth, provided this had an alkaline reaction on agar, the colonies appearing first as dewdrops. After three days they showed a more or less white center and transparent margin, which later became less transparent and even indented or fan-shaped. In 24-hour stab-cultures in gelatin the cause is marked by minute greyish colonies, while on the surface a slight, thin pellicle is formed. Arborescence was soon noticed, and by the fourth or fifth day, liquefaction. The bacilli stain well with Löffler's methylene-blue, with Nicolle's carbol thionin, and with dilute carbol fuchsine, and are decolorized by Grani's solution. Degeneration forms occur in older cultures. The author concludes: (1) That he has cultivated from leprous tissue a bacillus that differs from Hansen's bacillus in staining-reaction and size, and that this leprous tissue contains many lepro bacilli, apparently in a pure state; (2) that these bacilli, mixed with diluted human serum, show the Pfeiffer-Bordet reaction in vitro, leper serum acting much more markedly than non-leper serum; (3) that the reaction of leper serum is brought about by the concurrence of two substances present in leper serum, the sensibilizer and the alexins, and that the reaction of the non-leper serum is only to be attributed to the alexins; (4) that this sensibilizer, which attaches itself to the described bacilli, only occurs in leper serum; (5) that experimental researches have proved that the sensibilizer is a specific substance, that there exists a causal connection between the micro-organisms or cells and their sensibilizer, and that the occurrence of a sensibilizer is a general law in immune sera; (6) that the bacilli which he has cultivated and described are the true agents of leprosy, because leper serum and leper serum alone contains a sensibilizing substance for them; (7) that the susceptibility of leper bacilli to the action of leper serum, even in weak dilutions, gives a plausible explanation to the numerous failures to cultivate these bacilli.

Sterility of Bile.—A number of experiments were conducted by E. S. Carmichael (Jour. Path. and Bact. Sept., 1902) to study the effect of injection of micro-organisms into the portal system on the sterility of the bile in the gall-bladder. Typhoid and colon bacilli and streptococci were used and in all experiments, with the exception of one, after the injection of varying quantities from five minims upward the bile remained sterile and in its normal condition, showing that although the general blood-circulation be teeming with germs none can pass through normal hepatic tissue. It is, therefore, probable that infection of the bile from the gastro-intestinal tract does not take place through the portal vein and liver.

Influence of the New Tuberculin on Metabolism.—In order to obtain a clearer view of the action of tuberculin, a series of experiments on man and the lower animals has been made by J. Mitulescu (Deut. med. Woch., Sept. 25, 1902). The results of this research seem to contradict the former conceptions about the effect of tuberculin on metabolism. The injections were given in cases where the nutriment and the excreta were carefully measured, and from his observations the author believes that no cellular destruction takes place. On the contrary, the tuberculin is well borne as a therapeutic measure when given in small, carefully increased doses, and is of advantage in bringing about a "nutritive cell-proliferation," an appreciable increase in the protein constituents, and a progressive formation of "immune bodies," which lower the vitality of the bacillus and neutralize its toxins.

Transmission of Tuberculosis.—The question of the communicability of human tuberculosis to cattle has lately received renewed attention. A. Moeller (Deut. med. Woch., Oct. 2, 1902) finds as the result of numerous experiments on cattle and goats that healthy calves do not become infected with tuberculosis if human tuberculous sputum is fed to them or is injected subcutaneously, or if pure cultures are inhaled, given by intravenous or intraperitoneal injection or introduced in toto under the skin. In goats also no infection takes place even when enormous numbers of bacilli are mixed with the food. Intraperitoneal injection of large quantities may cause the formation of peritoneal nodules, but in no case did a general involvement of the organism result.

PATHOLOGY.

Chemical Contributions to the Study of Amyloid Degeneration.—In a research conducted on the nature of amyloid substance, A. Monery (Jour. Phys. et Path. gen., Sept. 15, 1902) was not able to obtain the sodium salt of the chondroitine-sulphuric acid obtained by other investigators. The bodies isolated had a greater content in nitrogen and sulphur, which enabled the author to classify them with derivatives of chondroitine-sulphuric acid, like glycosamin. There is new proof strengthening the theory of Morochewetz that the albumin united to the chondroitine-sulphuric acid in amyloid, is a nucleo-proteid. Perhaps here is a new contribution to the etiology of amyloid degeneration. This is seen in cancer, characterized by a hypernucleosis and an intense cellular destruction, but it is also established in old suppurations—arthritis, osteomyelitis and tubercular osteitis. In all these cases the red blood-cells are destroyed in great numbers and augment strongly the quantity of nucleine in the economy. Tchermak states that amyloid degeneration is accomplished not by local or intracellular metamorphosis, but by the deposition of the amyloid substance in the degenerated organs, this substance being brought by the leucocytes. The nucleines abound above all in the hematopoiëtic organs; it is there that waxy degeneration is most frequently found. It is therefore possible that the organism retains the nucleines in order to manufacture amyloid in combining them with chondroitine—sulphuris acid, or its derivatives, and here still can be stated the application of the biological law after Krawkow, "that pathological processes and their products have their physiological models."

Pathology of Chronic Specific Dysentery.—A chronic form of dysentery is described as of frequent occurrence by C. F. Craig (Am. Med., Oct. 11, 1902), and is considered specific, since the blood-serum gives an agglutination reaction with pure cultures of the Shiga bacillus, and since in a few cases this germ has been found in the intestines. Three classes are recognized the follicular diphtheritic, and gangrenous varieties according to severity. The feces in the follicular stage are characteristic as a whole, yet it would be unsafe to diagnose this stage from an examination of the feces alone. In number they vary greatly, usually from three to 20 during the 24 hours, and when a strict milk diet is given the consistence is that of very thin mush, milk-curds being often observed. The color is from white to yellowish-green, gray or brown. Little blood is present, but enough mucus and pus, and the odor is not very offensive. Intervals of constipation, and again of more watery stools with specks of mucus and pus, are common. The bacterial flora is varied and extensive. During the diphtheritic stage the stools constitute a serous body in which are suspended pieces of pseudomembrane, cells and particles of mucous membrane, mixed with blood, mucus, pus and undigested food. In the gangrenous stage a thin, slimy sirup is voided, of dark color, offensive odor, and full of necrotic shreds. On postmortem examination it is found that the follicular ulcerations are confined almost entirely to the large intestine; the ulcers had undermined edges, and a larger diameter at the bottom than at the top; their general appearance was as if stamped out, and the floor consisted of the submucous or muscular coat. In the diphtheritic stage there were large areas of necrosis covered by membrane, and the gangrenous form merely presented an intense type of this, with almost total destruction of the mucous and submucous coats, the patients generally also suffering from septicemia with metastatic abscesses, notably in the lungs. In considering the question of the etiological relation of bacteria to this dysentery, a most complex problem is presented, and it is more difficult to be sure of the incitor of the chronic form than the acute, since so many different forms of bacteria are found, and it seems most probable that more than one is at fault, especially in the later and gangrenous stage.

Pathology of Fibrinous Bronchitis.—While there is considerable discussion as to the nature of the sputum, whether fibrinous or mucoid, in fibrinous bronchitis, there is still more doubt as to the pathology of the condition, owing to the rare opportunities of performing autopsies. H. Hochhaus (Deut. Arch. klin. Med., Vol. 74, Nos. 1 and 2) reports a case where the sputum consisted undoubtedly of mucus with bronchial epithelium and polynuclear leucocytes. A bacteriological examination only showed a few streptococci. On autopsy it was found that in the finest bronchi the epithelium was intact; in the lumen there was an eosin-tinged mass, and externally a small round-cell infiltration. In the larger bronchioles there were epithelial defects, and hence the mass was richer in cellular elements, which increased with the size of the air-passages until these become cartilaginous, when the entire change was less severe. It follows that the process consists of a secretion of mucus with desquamation of the lining epithelium induced by a severe inflammation of the bronchial walls. The parenchyma of the lung does not seem to be involved in the process. The autopsies published on cases in which, unlike the author's, the sputum was fibrinous, showed very much the same anatomical conditions as mentioned here, and the microscope does not explain the varying character of the excretion.

MEDICINE.

Acroparesthesia Following Trauma.—According to Oppenheim acroparesthesia is due to an extraordinary irritability of the vasomotor center, as a result of which the arteries are contracted and the nutrition of the sensory nerve-endings in the extremities is damaged. The most pronounced and often the single symptom consists of disagreeable sensations, occurring in paroxysms, in the hands or feet. These sensations are felt most acutely at night or just after the morning awakening. At times distinct pain is felt, which may be sufficiently acute to arouse the patient when asleep. By rubbing the parts the pain may be diminished, or the peculiar sensation modified or temporarily banished. Stiffness may be felt to such a degree as to prevent the finer muscular coordinations. The distribution of the sensations does not correspond to any definite nerve-supply; usually the affected area does not show any lessening of cutaneous sensibility. There is no local tenderness, the nerve-trunks are not sensitive to pressure, and there is an absence of grave motor disturbance. The course of the disease is chronic, occasionally intermittent; its development is almost invariably gradual. Etiology and pathogenesis are far from clear. The causes usually assigned are climacteric disturbance, cold, and excessive muscular exercise. A case described by Cassirer was attributed to trauma, and M. Sommer (Berl. klin. Woch., Oct. 6, 1902) reports a case in which, after a contusion of the left hand, the patient recovered so rapidly as to be able to resume his work in two days, although paresthesia later developed. After an interval of four months numbness, rigidity, and pricking sensations were first felt. Physical examination discovered nothing beyond tortuosity and rigidity of the radial artery. No anatomical explanation of the patient's symptoms was found, nor was there any evidence of constitutional neurosis. Treatment was ineffectual. Sommer regards trauma as at least the exciting cause of the trouble, but is doubtful concerning the etiological importance of the beginning arteriosclerosis and of the patient's occupation—that of a boiler-tender—which exposed him to dry heat during a considerable part of each day. The lack of a satisfactory explanation of such cases too often leads to the hasty accusation of malingering.

Cystitis in Typhoid Fever.—Two distinct classes of cystitis are recognized by H. E. J. Biss (Ed. Med. Jour., Oct., 1902) in typhoid fever—those in which it is directly caused by retention, and perhaps by unclean catheterization, which cases may or may not be specific, and those, on the other hand, which are spontaneous in origin and certainly specific. Concerning frequency, the medium and severe cases seem to suffer most often; the sexes are affected equally, and no differences are noted as to age. The average date of the appearance of bacilluria is the forty-third day; of cystitis, the thirty-sixth. None of the theories which seek to account for a pathological basis are quite convincing, but it seems most likely that a multiplication of the bacilli takes place in the bladder. Sometimes not the typhoid, but the colon and other bacteria, are the cause of the cystitis. Concerning treatment, urotropin should be given as early as possible without waiting to diagnose the bacillus. Of this 20 grains may safely be given every four hours, and the administration should not be stopped too soon. Some forestall the appearance of a cystitis by giving the drug throughout the disease.

Tuberculosis of Heart and Pericardium.—Cases of tuberculous myocarditis are rare, and tuberculous pericarditis, while more frequent, is nevertheless not so often met with as might be expected from the frequency of the disease in the structures immediately in relation to the heart. The muscular system generally and the cardiac muscle in particular seem to be able to withstand tuberculosis markedly better than any other tissue in the body. The cause of this is not well ascertained. The disease usually manifests itself in tissues which are in a state of comparative rest, or where the blood-stream is slowest. There is no other situation in the body where there is such frequent movement as in the heart-muscle, and the rate of the blood-flow through the coronary arteries is considerably greater than in parts more removed from the heart. These two conditions are therefore inimical to the settlement and proliferation of the bacilli. In addition to these the pure state of the blood, the products resulting from the muscular contraction, and the simple mechanical action must all be against the settlement of the tubercle bacillus. Taken in conjunction with these, the length of time the bacillus requires before it can grow and multiply, it is scarcely surprising that the disease is so rarely found affecting this organ. Two cases are published by W. M. Smith (Ed. Med. Jour., Oct., 1902) in which the conditions were more favorable in that the lease of the heart was firmly bound down by an inelastic mass of degenerating gland and by an adherent lung, and the pericardial layers were grown together and greatly adherent so that the heart's action was enfeebled and the period of rest diminished. Similar conditions are found in most cases.

Diagnosis of Tuberculous Pleurisy.—Different authors have given different percentages as indicating the frequency with which an exudative pleuritis is tuberculous and very high numbers are given by the French school. Yet, as pointed out by J. A. Grober (Deut. Arch. klin. Med., Vol. 74, Nos. 1 and 2), one often has considerable difficulty in determining the presence of the bacillus, even where there is no question as to the nature of the exudation. As cause for this it is possible that the bacilli are thrown down with the masses of fibrin, or that they remain in the walls of the pleura without entering the pleural fluid. There is only one method, the injection into animals susceptible to tuberculosis, which leads to frequent positive results. The guinea-pig is the best animal to use, and there should be certain definite rules as to the amount of fluid injected and site of injection. By ordinary care it is possible to rule out all accidental infection which would tend to make the results untrustworthy. In 10 c.c. there is in the majority of all cases enough of the infecting agent present to kill healthy guinea-pigs whose susceptibility by the intraperitoneal method is almost absolute. Of the exudates examined —which did not include those undoubtedly tuberculous, nor those without question not so, but constituted the class spoken of as idiopathic or cryptogenetic—half to one-third were proven to be tuberculous by this method.

Observations on the Thyroid Gland.—Reviewing the various experiments on dogs, W. EDMUNDS (Jour. Path. and Bact., Sept., 1902) finds that after complete excision of the thyroids and parathyroids the great majority of animals die within a few days and cannot be saved by thyroid feeding, but that a small minority survive even the complete operation. In operations where one or more of the parathyroids are left, the dogs as a rule survive, while when only thyroid proper is left, as a rule they die. With respect to operations which would paralyze secretory nerves, if any, of the thyroid, the dogs often die, although possessed of the whole of one thyroid lobe, together with the parathyroids of the same side, or even if possessed of the entire thyroid system. With respect to the microscopic appearances of the parts left in the experiments, the parathyroids seem merely to hypertrophy; they do not change into thyroid tissue proper. The thyroid tissue left may remain unaltered, even though the dog may die of athyroid symptoms; or it may materially alter, and this in one of two ways: Either the colloid diminishes, the vesicles become enlarged and the lining membrane convoluted, or the colloid may disappear, the vesicles may retain their round shape, and the secreting cells may multiply into and fill the cavity of the vesicle, the entire picture resembling carcinoma. In the central nervous system changes have been found corresponding to the paralytic symptoms; the lesions that occur are observed mainly in the large cells, and vary from a chromatolysis of the Nissl granules to a complete destruction of the cells.

Anasarca in Malaria.—Acute attacks of general oedema accompanying malarial poisoning are rare, but are said to occur at times in the Southern States. Two cases are reported by F. L. MORSE (St. Louis Med. Rev., Oct. 18, 1902), who was unable to discover any changes in the heart or kidneys which might be held responsible for the general and pronounced anasarca. Although the patients had lived in the South, yet their physical condition would preclude the possibility of anemia or cachexia being the cause of the trouble. Quinine and Fowler's solution were sufficient to rapidly clear up both cases.

SURGERY.

Lumbar Hernia.—The matter of protrusion of any viscus from its normal bed into another part of the body, through some anatomical or traumatic path, is one that has interested the medical profession as long as it has existed. Among the more rare forms of hernia, those in the lumbar region stand first in importance. Concerning these, the following conclusions are offered by R. VON BARACZ and A. BURZYNSKI (Arch. klin. Chir., 1902, B. 68, H. 3). There exists under normal conditions, near the middle part of the upper and lateral region of the loin, a constantly found space, which is protected only by the thin, tendinous part of the transverse abdominis muscle. This is called the tendinous lumbar space, and is the weakest part of the loin. The weakest single point in this field is the canal through which the subcostal artery, vein and nerve pass. This point is often that one chosen as the exit for abscesses, which proceed from diseases of the dorsal vertebræ, and it is also chosen for the canal of escape of lumbar hernia. In children and adults who have a very short twelfth rib, there extends to the eleventh rib a considerably wide space of this character. There is a space all too weak by the natural anatomy of the part, and rendered still more so by the exit of the eleventh and twelfth costal nerves and vessels. The triangle of Petit is also a point of exit for hernias. Another area of diminished resistance in the region of the loin is in the middle of this triangle of Petit, especially along the tendinous portion of the latissimus dorsi muscle, just above the crest of the ilium. Through this there issues the lumbar branch of the iliolumbar artery and vein; through this, occasionally, abscesses which take their origin from the lumbar vertebræ also point. Also, hernias find it a convenient point of exit.

Colostomy and Ileostomy.—The necessity for making an abnormal opening into the bowel at various points was recognized many years ago. Since that time various methods have been suggested for making artificial anuses, but they have not stood the test of long use. The difficulties of making them so as to be within the control of the patient have led to the pronouncing of practically every method more or less a failure. C. HOFFMAN (C'blatt Chir., Oct. 4, 1902) brings forward the following technic as giving, or at least promoting control by the patient. The various details of the operation he describes as follows: The loop of the intestine which has been chosen for the point of making the artificial anus, no matter whether it is a large or small intestine, should be, so far as possible, stripped or milked clean of fecal matter in both directions for a considerable distance, by the stroking of it between the thumbs and forefingers of both hands. After this has been accomplished it should be separated from the rest of the intestines and held against the abdominal wall by gauze packing. On the free margin of the intestine, that is, opposite the point of attachment of the mesentery, an opening of suitable length is made. Into this a rubber tube is passed which has been cut on one side, and on the other side has a silk thread wound around it. This tube is passed in such a direction as to be in the fecal stream, and for a distance of five cm. a suture of catgut secures the rubber tube in the opening of the gut, and when properly applied makes a water-tight joint about the tube. Other silk sutures, which do not take in the wall of the tube, also reenforce this mechanical stopping much in the manner of Witzel in the case of the stomach. The exact mechanical method of applying these sutures depends somewhat upon each case, but a little ingenuity will accomplish the purpose. The abdominal wall is now punctured at such a point as will permit this tube to be drawn out of it by means of the silk thread at its free end. This secondary opening must necessarily be quite near the original incision for the operation. It is well to evert one flap of the original wound sufficiently to permit of sewing the parietal peritoneum to the intestine at the point of exit of the tube. When this is done it will be seen that an oblique canal is accomplished through the abdominal wall by means of the tube which, when removed, will leave the opening behind it in such a condition that the patient has very fair control of the feces. It is necessary to employ a rubber tube whose diameter is as nearly as possible that of the intestines in order to preserve a due proportion between the supply of feces from above and its evacuation from below.

Tuberculous Peritonitis.—Since the surgical treatment of tubercular inflammations of the peritoneum was stumbled upon by chance the excellent results have awakened great interest in our endeavors to explain the rationale of the treatment. T. E. POTTER (St. Louis Med. Rev., Oct. 11, 1902), in discussing the point of entrance of the tubercle bacillus in causing peritonitis, although not denying the possibility of a direct and rapid infection through the intestinal tract and mesenteric glands, yet lays stress upon the probability of the peritonitis following upon a long-standing latent infection of various parts of the body, especially the lungs and lymphatic glands. Congestions or impairment of the healthy condition of the peritoneum may lead to the development of the disease. In this connection he points to the frequency with which the Fallopian tubes and ovaries are affected by this disease, and offers as a possible cause the periodical congestions which take place in the pelvic cavity. Severe constipation he offers as another factor of causation. In diagnosis, Da Costa mentions the presence of nodules around the rectum and in the sacro-uterine ligaments as significant points to be noted. In explaining the benefits to be derived from simply allowing the fluid to escape, air to enter, and from immediate suture of the wound, much has been said, but very little definite knowledge is to be had. The freeing of the fluid eliminates the toxins which have been accumulating and which are very poisonous, and therefore great assistance is given to the system in its combat with the disease. In reference to the entrance of air we know that the tubercle bacilli never attack a large open wound, but are more liable to attack small or contused wounds or those in which stasis is present. Phagocytosis is supposed to play an important part, and the air may so inhibit the germs, at least temporarily, as to allow the leucocytes and tissue cells to get in their work. Morris suggests and claims to have proven by experiment that the entrance of air adds saprophytic bacteria to the peritoneum, and that these tend to hold the specific inflammation in check, at least for a sufficient length of time to allow the nuclein brought by the polynuclear leucocytes to destroy the bacilli and their toxins. Drainage with a rubber tube in the lower angle of the wound is recommended so long as there is any discharge, and irrigation with salt solution is also urged as being beneficial.

Deductions From Laparotomies for Gall-stones.—Between the years 1890 and 1902 laparotomy for gall-stones was performed 720 times by KEHR of Halberstadt (Berl. klin. Woch., Oct. 6, 1902). His observations will aid others in diagnosis. It appears that icterus is wanting in 80 per cent. of cases of stone in the gall-bladder and cystic duct, and that it is absent even in 30 per cent. of cases of stone in the hepatic and common ducts. Operation may be imperatively demanded when palpation of the liver and gall-bladder are negative. The so-called "natural cure" by the spontaneous formation of fistulous connection with the intestine is often no cure at all. Kehr operated in 30 such cases, and almost invariably found that stones remained behind where they could cause trouble. The true function of internal medication is not to dissolve and remove the hard masses, but to provide rest for the biliary system, and by abolishing inflammation to substitute a latent for an active cholelithiasis. The use of vibration-massage in the presence of an inflammatory process is highly objectionable. Only after a vast operative experience is a special diagnosis of location and character of the obstruction possible; but such an anatomical diagnosis is possible, and on it depends the decision between a Carlsbad cure and an operation. Of 195 cases, only 100 required operation, in Kehr's judgment. In cases of light colicky attacks with intervals of complete latency (absolute absence of tenderness) Kehr would not operate. As a rule a single attack of acute obstruction of the common duct does not justify operative interference. If the icterus continues despite internal medication and is accompanied by absolute loss of appetite and failing strength, palliative treatment must be abandoned. Frequent, severe colic, failure to pass stones, associated with palpable failure of general health and involving interference with the patient's occupation, demand operation. Cases of hydrops and empyema of the gall-bladder with pericholecystitis are to be regarded as surgical. Chronic sufferers who have become addicted to morphine should be treated surgically at once and broken of the morphine habit during the postoperative period. Carcinoma of the gall-bladder is rarely cured by surgical means, because diagnosis is not made early enough. Men, and especially fat men, bear gall-stone operations very badly. Women who have borne children are the best subjects. Poor patients need to be operated oftener than rich, because the former lack the means for long courses of treatment either at Carlsbad or at home, and the attacks interfere more seriously with their means of livelihood. Operations should be avoided if possible in the presence of diabetes, arteriosclerosis, chronic nephritis, lung-disease and heart disease. Among Kehr's earlier operations cholecystotomy predominated; with increasing experience cholecystectomy and drainage of the hepatic duct became more and more frequent. In 12 per cent. of all cases gastric affections were present. Three patients were over seventy years of age at the time of operation; all three recovered. Kehr has entirely abandoned suture of the choledochus and now practises drainage of the hepatic duct, preferably in combination with cholecystectomy.

Removal of the Appendix.—Under what circumstances it is advisable to remove the vermiform appendix when the abdomen is opened for other reasons has been made the subject of an inquiry by H. A. KELLY (Jour. Am. Med. Assoc., Oct. 25, 1902). Well-known surgeons of this country to the number of 80 were addressed on the advisability of removing under these circumstances (1) a normal, or (2) a slightly adherent appendix, and in answer to the first question came 44 unqualified negatives and 26 affirmatives, while in answer to the second question 60 unrestricted affirmatives and seven negatives were received. The author's own opinion in both cases coincides with that of the majority, and he believes that the appendix should always be examined and its condition noted whenever the abdominal cavity is opened for any reason, provided no additional risk is involved. The fact that the appendix is normal in appearance does not prove that it contains no fecal concretions, and their presence is sufficient reason for the removal of an apparently healthy appendix. After removal of the right ovary the stump should always be covered with peritoneum, in order to prevent the risk of adhesion to the appendix. A long and free appendix should invariably be removed.

Silver Catgut.—A new method of effectually sterilizing catgut is given by L. GRUNFELD (C'blatt ges. Ther., Oct., 1902). The crude gut is first thoroughly cleansed with tincture of green soap and the brush, and then kept for 24 hours in the tincture. Then this is removed by washing with 90 per cent. alcohol and the catgut placed in a one-per-cent. solution of actol in water for seven to eight days in a blue or brown bottle. At the expiration of this time the catgut is placed into colorless bottles and exposed to direct sunlight, whereby the metallic silver is deposited on the fibers. It is kept until used in absolute alcohol containing 10 per cent. glycerin. Itrol may be used in place of actol with the same result. Bacteriological examination showed that the gut was absolutely germ-free. Further advantages were great strength—since high temperatures were not used in preparing—and considerable pliability.

Prolapse of Rectum.—For a prolapse of moderate degree the following method of operation, which is comparatively free from danger and radical in its results, is recommended by J. M. MATHEWS (N. Y. Med. Jour., Oct. 18, 1902). The rectum is irrigated several times before the operation with boric-acid solution, one ounce to the gallon. After the patient is anesthetized the gut is drawn out to the full extent of the prolapse and held firmly by forceps. An incision is made at the anal portion of the prolapse completely around the rectum, and a careful dissection is then made of the mucous membrane and submucous tissue extending to the terminal end of the prolapse. This cuff is then cut off with a strong pair of scissors and the edges sutured with catgut. The hemorrhage is so slight that it may be controlled by hot sponges. The results are apparently very satisfactory.

THERAPEUTICS.

Physiological Action of Alcohol.—That alcohol is not a stimulant, but a decided depressant upon circulation, is the result obtained by J. SWIENTOCHOWSKI (Zeitsch. klin. Med., Vol. 46, Nos. 1 to 4). In this respect it does not differ in its effects upon other organs, for the apparent cerebral irritation is only a sign of beginning paralysis of the psychomotor centers which exerted inhibition. So also the increased physical activity and tendency to overcome fatigue results from gradual dulling of the muscular sense. In the stomach the digestive secretion may be first increased, but soon ceases almost entirely. The fact that animals inoculated with the germ of tetanus possess less resistance if alcohol is administered proves a deleterious influence upon general metabolisms. The ethereal ingredients of the better alcohols are no less harmful, since an expensive cognac was found to depress as much as a far cheaper grade. These observations will tend to considerably narrow the sphere of usefulness of alcohol in disease, especially as heart stimulant.

Physiological Action of Iron.—From a number of experiments on man and animals, H. LANDAU (Zeitsch. klin. Med., Vol. 46, Nos. 1 to 4) concludes: (1) That inorganic salts of iron are absorbed in the intestinal tract and exclusively in the duodenum directly into the lymph or blood-stream through the agency of the epithelial cells, the absolute amount thus absorbed being very small; (2) that the absorbed iron is deposited chiefly in the spleen, and partly in the liver and bone-marrow, in the two organs last named probably in organic combinations which do not always permit of its detection, while only the iron which is freed owing to the extensive disintegration of red cells following anemia, starvation, etc., is stored in the liver in a loose combination; (3) that the excretion of iron occurs in the cecum, colon and rectum, and to a much less extent by means of the epithelial cells of the convoluted tubules of the kidneys; (4) that the addition of inorganic ferric salts to the food of rabbits increases to a high degree the iron in liver and spleen; (5) that the addition of inorganic ferric salts to artificial iron-free food increases considerably the amount of iron in the body, though it does not come up to the amount of normally fed animals, a favorable influence upon the general condition also being noted; (6) that the efficiency of inorganic preparations in anemia is not to be sought in irritation of the hematopoietic organs, but probably in a direct action by yielding the iron necessary for the building up of new red cells.

The Glycerophosphates.—The first report that was made upon the use of these drugs in medicine was presented in 1854 by Dr. A. Robin of Paris, who had even then employed them for at least six years, and who spoke most highly of their efficacy. They are products of the action of glycerophosphoric acid upon various bases, such as sodium, potassium, iron, calcium, lithium, etc. The glycerophosphoric acid is obtained from the action of phosphoric acid upon glycerine, and is also a product formed in the human body during digestion. The sodium and potassium salts are very hygroscopic and are sold only in a 75 per cent. watery solution. They are saline in taste, jelly-like in appearance, and affected by changes in temperature. P. W. STREET (Med. Rec., Oct. 11, 1902) has made a careful study of the therapeutic value of these salts and believes that they have a very constant effect in promoting the nutrition of the cells. They supply phosphorus to the tissues in an easily assimilable form, as organic phosphorus, and since phosphorus is an important constituent of those cells which comprise the brain and nerve substance their utility as a nerve-food or tonic is naturally suggested. They are indicated and are most useful in all cases of nervous impairment due to overwork or excesses of any kind, and also in asthenic nervous maladies, mental depression, and whenever it is desirable to increase the nutrition of the cells. They greatly relieve hysteria, and are useful in chronic neuralgia and sciatica. They are contra-indicated in albuminuria, acute gout or rheumatism, and are incompatible with lead salts or carbonates. When taken by the mouth they are easily tolerated by the most delicate stomach and seem to have no immediate effect, but soon the appetite increases, the liver is stimulated, and the phosphate waste restrained. The glycerophosphate of sodium is most used and may be taken either in sirup of orange or sarsaparilla in doses of 10 to 30 grains. A useful formula is:

℞ Glycerophosph. Sod....................gr. vijss
Glycerophosph. Quininæ................gr. j
Glycerophosph. Ferri........ ....gr. ij
Glycerini ....ʒj
Citric Acid q.s. (to complete solubility).

M. et Sig. To be taken in water before meals.

It is usually necessary to continue their use for from three to six months. If an immediate result is desired they may be used hypodermatically, but the discomfort from such use is frequently very great. The solution usually employed for this purpose is:

℞ Glycerophosph. Sod......................gr. xij
Sodii Chloridi ....gr. ss
Aquæ Distillatæ ....ʒi

M. et Sig. M xv injected once daily.

Pulmonary Tuberculosis.—

℞ Iodoform ....2.0-4.0 (ʒss-j)
Creosot.
Ol. eucalypti.
Ol. terebinth.
Tinct. guaiac ....aa 50.0 (ʒxiii)

To be administered internally and externally in capsules, by inhalation, and by diffusion into the patient's room.

—PETRESCO in *Le Progrès Médical.*

The following prescription is beneficial in nasal cases dependent on hyperemic hypertrophy of the turbinated bones, also in nasal polypus after operation, as a preventive of sneezing, and as allaying many of the symptoms in hay asthma:

℞ Cocainæ hydrochlor............. .03 (gr. v)
Ol. eucalypti ....1.3 to 4.0 (♏xxi-ʒi)
Vaselin vel lanolin ad...........30.0 (℥i)

Misce.

—LENNOX BROWNE in *"Diseases of the Throat and Nose."*

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SATURDAY, NOVEMBER 8, 1902.

THE PLAGUE WILL NOT DOWN.

THE politicians who run the San Francisco Board of Health are justly in disgrace. The national conference of the State Boards of Health held this last week in New Haven takes up the subject, treated over two years ago in our columns, and brings in a striking indictment of their negligence and indifference to the Federal Government; and it is reported that the Marine Hospital Service will take decided steps.

The issue of the matter is too grave to be passed over lightly; for what has been a scandal may at any moment become a tragedy. San Francisco has deliberately and with the connivance of the Mayor of that city and the Governor of California tried to suppress the fact that bubonic plague has been present in the city for two years. San Francisco is practically the only city in the United States that has ever had a case of bubonic plague, and all infection must come from there. The disease has broken out of Chinatown, the only locality where the health authorities would ever admit even its existence, and has spread to other parts of the city, and to the suburbs. Over thirty deaths have been reported in the past seven months; and either every case has been fatal, which augurs ill for the victims if the disease spreads, or else none but deaths too marked to be ignored have been reported, for the number of cases tallies exactly with the number of deaths.

If this be the case the people of San Francisco cannot feel any great sense of security in this means of protection. Certainly the rest of the country feels anything but secure; especially as it is known that there has been a distinct clash between the Treasury Department and the State authorities. The former declared that the situation must be recognized and faced, the latter that the State was competent to judge, and would deal with the trouble after its own manner. For fear of injuring business interests San Franciscans have denied the existence of plague, the newspapers have been silent, and the Board of Health reports have treated the matter as lightly as possible.

This short-sighted policy may act as a boomerang upon San Francisco, the moment a case breaks out anywhere else, that can be traced back to the city, for the railroads, all exports, and all travelers will be placed under quarantine. The knowledge of laxness will only serve to make people doubly cautious; and the only safety for San Francisco's commerce now is to enforce the strictest regulations concerning quarantine, and to satisfy other citizens as well as her own too credulous citizens that no case can exist without being reported, isolated and properly cared for.

Nothing but the strictest quarantine of the port saved New York and the eastern sea-board two years ago, when the plague reached Glasgow; and nothing but the same strict quarantine will save San Francisco, and in turn the whole of the United States.

PROFESSOR LORENZ AND AMERICAN SURGERY.

APROPOS of the visit of Prof. Lorenz to this country, there seems to be a tendency on the part of some ill-disposed persons to make disparaging remarks as to the real efficiency of the American surgeon. "If it is true," they say, "that surgical science has advanced to that point of excellence where the United States can hold its own with any country in the world, why is it that a foreign doctor, hitherto unknown to a majority of our people, should be hailed with such acclamation? Furthermore, why do hundreds of so-called authorities besiege the operating-room to learn just how the thing is done?"

The New York Times in commenting upon the fact has this to say: "Until one studies the episode carefully it is distinctly humiliating to our national pride, but it ceases to be so when better understood, and, not only that, but it presents the whole medical profession in a most admirable light. Our own surgeons have made so many discoveries themselves, have developed so many brilliant and courageous methods of dealing with disease, that they can well afford to accept instruction from the specialists from other lands who are fortunate enough to be able to repay in part or whole their debt to American science. And as the position of our surgeons while learning of a foreigner is without humiliation, so that of Prof. Lorenz in performing his wonders is without a trace of condescension or of commercialism."

This view of the matter is admirable and wholly sane. Prof. Lorenz did not come to this country to show us how to operate upon deformities of the hip, however willing some of us might be to have him do so. He came at the earnest solicitation of a multimillionaire, who has perfect liberty to call in whomsoever he pleases. He came to operate on the wealthy man's little daughter, unmindful of what anyone may surmise with respect to his opinion of the surgeons and surgery of America. And in accepting this invitation Prof. Lorenz has shown much the same spirit that has prompted great literary men, such as Thackeray and Matthew Arnold and Mr. Kipling, to visit us; namely, a desire to exchange opinions on matters of vital interest to humanity.

There is no need for an apology on either side. The learned Viennese Professor will doubtless take away as many pleasant impressions of our real progress as he is likely to leave behind hints valuable to the present and coming generations of American surgeons.

MEDICAL INDICATIONS FOR THE INTERRUPTION OF PREGNANCY.

It is the common practice of teachers of obstetrics to emphasize the doctrine that the preservation of the mother is the supreme law of obstetrics. The enforcement of this law may involve the destruction of the fetus, but this is not to deter the physician from the performance of his duty, which is, first and last, to preserve the maternal life as the more important human unit. In its essence this teaching is intended to be, and in reality is, conservative. But its proper application demands a degree of prognostic judgment which the beginner in medicine does not possess. He therefore turns for guidance to obstetrical literature, where he readily finds such an extensive list of medical indications for the interruption of pregnancy that a too precipitate resort to extreme measures is often the result.

This subject is one of a number of very practical matters which were discussed at the fourth international congress of gynecologists and obstetricians, held a few weeks ago at Rome. After consulting an ordinary text-book of obstetrics for a list of the maternal conditions, particularly the systemic diseases, which indicate the induction of premature labor, one is somewhat surprised to find that Professor Draghiesco of Bucharest, in a total of 18,132 accouchements, found medical indications for early interference in only 17 cases, of which 13 were cases of eclampsia, three were grave cardiac disorders, and one was epilepsy. Again, Professor Rein of St. Petersburg, in a series of nearly 3,000 cases, found indications for premature delivery in 37 instances; but about three-fourths of these were cases of deformed pelvis, and in the few instances of systemic disease in the mother one finds an enumeration only of nephritis, eclampsia and heart disease.

We do not mean to suggest that serious cardiac insufficiency, eclampsia and the graver forms of albuminuria are to be regarded as the sole indications for the performance of the operation under discussion, but it certainly is worth while to contrast these statistical reports, derived from well-managed clinics having an immense and representative service, with such an academical treatment of the subject as was presented at the same congress by Dr. Schauta of Vienna. The latter includes among the important medical indications polyneuritis, chorea, tetany, cerebral tumor, hemiplegia, psychoses, epilepsy, pityriasis versicolor, prurigo, eczema, pemphigus, herpes gestationis, progressive tuberculosis, ptyalism, hematemesis, catarrhal appendicitis, grave icterus, hepatic tumors, pyelonephritis, hyperemesis, persistent albuminuria, amaurosis and retinitis, eclampsia, uncompensated valvular lesions, cachexia, pernicious anemia, beginning typhoid fever or dysentery, etc. The advisability of interfering with gestation in some of these conditions is at least doubtful; but we desire here especially to show that in actual practice the necessity for interrupting pregnancy in the interest of the maternal life is not nearly so frequent as this interminable list of "indications" would imply.

The anxious medical student, depressed with the weight of his future responsibilities in this matter, may console himself with the knowledge that he will not be called upon for this supreme decision so frequently as he may have imagined. But he will not escape the responsibility altogether, and we have no sympathy with the attempt to relieve the individual practitioner of this responsibility by the promulgation of rules by an international congress. Such a congress might confine itself to an expression of belief in the supreme claims of the maternal organism, in which case its pronouncement would be merely useless. On the other hand, an enumeration of indications for the interruption of pregnancy might be risked. In this case the congress would either be too liberal in its inclusions and thus mislead the inexperienced and open the door to traducers of the profession, or it would be so conservative as to leave the individual practitioner without the support of authority in the very cases in which such support is most needed. The ultimate court of appeal is and must remain the physician's own science and conscience. Mediacl men can best serve each other and themselves by a frank discussion of the ethics of practice, by a reverent regard for *all* human life, and by carefully recording and freely publishing the results of their experience.

ECHOES AND NEWS.

NEW YORK.

Appointment of Dr. Bailey.—Dr. Pearce Bailey has been appointed Consulting Neurologist to Roosevelt Hospital.

Academy of Medicine.—The Section on Pediatrics will hold a meeting Thursday, Nov. 13. Dr. S. O. Goldan will report a Case of Meningitis treated by Lumbar Puncture; Dr. C. Herrman a Case of Achondroplasia. Dr. G. C. Swift will read a paper on Adherent Pericardium and Dr. Henry Heiman a paper on Peliosis Rheumatica in Children. The Section on Surgery will meet Monday, Nov. 10. Dr. Charles R. L. Putnam will present a Case of Gonorrheal Peritonitis; Dr. A. V. Moschcowitz will read a paper on Inguino-Superficial Hernia. Dr. F. Griffith will present some new tapping instruments. The Section on Otology will meet Nov. 13, Drs. M. Toeplitz, T. P. Berens and A. B. Duel will present specimens and cases. Dr. Thomas R. Pooley will read a paper on Affections of the Labyrinth Resulting from General and Organic Diseases. The following were made Resident Fellows: Drs. Thomas Armstrong King and Charles Wood McMurtry.

Bellevue Changes.—Dr. George Taylor Stewart has been placed in charge of the hospitals outside of Bellevue, and his deputy, Michael J. Richard, is conducting Bellevue's affairs. This change was made because Dr. Stewart had too much work to do. He was responsible for all hospitals up to four weeks ago when the change went into effect.

New Hospital Buildings for the City.—Plans have been filed with the Department of Buildings for the erection of two one-story frame hospital buildings on North Brother Island, off East One Hundred and Thirty-ninth street. The buildings will occupy a site 26x98, and will be known as the Riverside Hospital. They will be used for contagious-disease patients. Each building will cost $9,500.

Medical Research Lectureship.—At the monthly meeting of the board of trustees of the Johns Hopkins University held Nov. 3, the trustees received and accepted the offer of Dr. and Mrs. Christian A. Herter of New York city to give $25,000 for the foundation of a memorial lectureship in the medical department, "designed to promote a more intimate knowledge of the researches of foreign investigators in the realm of medical science." This end is to be secured by inviting each year some eminent worker in physiology or pathology to deliver one or more lectures at the Johns Hopkins University upon a subject with which he has been identified. The lecturer will receive as an honorarium the annual income of the endowment. The committee to select the lecturer will consist of Dr. Welch, Dr. Osler and Dr. Abel, subsequent vacancies in this committee being filled by choice of the remaining members in such a way that pathology, physiological chemistry and clinical medicine shall continue to be represented. There is no bar to opening the proposed lectureship to leaders in medical research in this country, if this should ultimately appear desirable.

X-ray Suit Unsuccessful.—A suit of interest to physicians has just been decided by Justice O'Gorman in the Supreme Court who dismissed the damage suit of Miss Josephine MacDonald against Nelson T. Shields and G. F. Jernigan, dentists, and M. J. O'Connor, X-ray specialist, without letting it go to the jury. She sued to recover $50,000 for damages she alleged she sustained through an X-ray examination made on her by O'Connor, under the supervision of the other two defendants, whom she had consulted as dentists, in regard to the condition of her teeth. She was severely burned by the rays, and her hair fell out, leaving her bald. Justice O'Gorman decides that Shields had nothing to do with the operation, which was completely under the supervision of O'Connor, and that he cannot be held liable because the plaintiff had voluntarily submitted to the examination. As to Jernigan, Justice O'Gorman held that he was merely an assistant to Shields and was not liable either. Moreover as O'Connor had not been served with any summons or complaint in the action no case could be made out against him. Miss MacDonald asserted that she had not gone voluntarily to O'Connor's office, but had been taken there by Shields and Jernigan without being told what the purpose of the visit was. Justice O'Gorman held that the preponderance of the evidence showed that she had consented to the operation. Miss MacDonald's counsel announced that an appeal would immediately be taken.

Preventive Medicine Awards.—The two prizes of a thousand dollars and five hundred dollars offered by The Maltine Company last January for the two best essays on "Preventive Medicine" have been awarded by the judges, Dr. Lewis of New York, Dr. Reed of Cincinnati and Dr. Rhodes of Chicago, who met for a final consultation in Buffalo. Two hundred and nine essays were submitted in competition, and although nearly every State in the Union was represented in the contest, both prizes were won by Philadelphia men. The thousand dollar prize was awarded to Dr. W. Wayne Babcock, 3302 North Broad street, Philadelphia. His essay is entitled "The General Principles of Preventive Medicine" and was submitted under the nom-de-plume "Alexine." The five hundred dollar prize was awarded to Dr. Lewis S. Somers, 3554 North Broad street, Philadelphia. His essay is entitled "The Medical Inspection of Schools—a Problem in Preventive Medicine" and was submitted under the nom-de-plume

"Broad." The two successful essays will first be published in representative medical journals, and then in permanent form for gratuitous distribution to the profession at large. The following will undoubtedly prove of interest to the general profession. It shows how the various sections of the country were represented in the competition: Alaska, 1; Arkansas, 1; California, 6; Colorado, 4; Connecticut, 5; District of Columbia, 3; Florida, 5; Georgia, 5; Illinois, 15; Indiana, 11; Iowa, 8; Kansas, 2; Kentucky, 3; Louisiana, 2; Maine, 4; Maryland, 2; Massachusetts, 12; Michigan, 7; Minnesota, 7; Mississippi, 1; Missouri, 5; Montana, 2; Nebraska, 2; New Hampshire, 1; New Jersey, 4; New York, 22; North Carolina, 1; Ohio, 11; Oregon, 1; Pennsylvania, 25; Rhode Island, 1; South Carolina, 2; Tennessee, 1; Texas, 2; Vermont, 1; Virginia, 1; Washington, 3; West Virginia, 2; Wisconsin, 10; Ontario, 2; New Brunswick, 1; Unidentified, 5. Total, 209.

College of Physicians and Surgeons.—The following lectures on scientific subjects of interest to students and teachers of medicine, will be given by officers of Columbia University. On successive Wednesdays at five o'clock in the Lower Lecture Hall, College of Physicians and Surgeons, entrance at 437 West Fifty-ninth street. Officers, alumni, and students of the College of Physicians and Surgeons are invited to attend these lectures. Admission is without ticket up to the limit of the Lecture Hall.

Nov. 5. Franz Boas, Ph.D., Professor of Anthropology, Growth of Children (illustrated); Nov. 12, Edward Lee Thorndike, PhD., Adjunct Professor of Genetic Psychology in Teachers' College, The Inheritance of Mental Traits; Nov. 19. Amadeus W. Grabau, S.D., Adjunct Professor of Paleontology, Illustrations of the law of Tachygenesis, or "acceleration in development" (illustrated); Nov. 26. Bashford Dean, Ph.D., Adjunct Professor of Zoology, The beginnings of certain characteristic structures of man; Dec. 3. Edmund B. Wilson, Ph.D., LL.D., Professor of Zoology, The Phenomena of Cell Division in Relation to Some Problems of Biology and Medicine (illustrated); Dec. 10. Lucien Marcus Underwood, Ph.D., Professor of Botany, The Relation of Botany to Materia Medica; Dec. 17. Livingston Farrand, A.M., M.D., Adjunct Professor of Psychology, Nervous and Mental Diseases Among Savage Races; Jan. 7. J. Livingston Rutgers Morgan, Ph.D., Adjunct Professor of Physical Chemistry, Osmotic Pressure and Ionization (illustrated); Jan. 14. Edmund Howd Miller, Ph.D., Adjunct Professor of Analytical Chemistry, Some Analytical Applications of Ionization; Jan. 21. Marston Taylor Bogert, A.B., Ph.B., Adjunct Professor of Organic Chemistry, Synthetic Organic Medicaments; Jan. 28. James McKeen Cattell, Ph.D., Professor of Psychology, Physical and Mental Fatigue; Feb. 4. James Furman Kemp, A.B., E.M., Professor of Geology, Geological Factors in Problems of Water Supply (illustrated); Feb. 11. Richard Elwood Dodge, A.M., Professor of Geography in Teachers' College, The Weather Phenomena of the Eastern United States in Their Relation to Bodily Health (illustrated); Feb. 18. Gary N. Calkins, Ph.D., Instructor in Zoology, The Protozoa in Relation to Modern Problems in Biology; Feb. 25. Henry Fairfield Osborn, ScD., LL.D., Da Costa Professor of Zoology, Methods of Exploration for Fossil Mammals and Reptiles in the Rocky Mountain Region (illustrated); Mar. 4. Frank Leo Tufts, Ph.D., Tutor in Physics, Some Recent Researches on the Relation of Electricity to Matter (illustrated); Mar. 11. William Hallock, Ph.D., Professor of Physics, Some Phenomena of the Molecular Mechanics of Liquids (illustrated); Mar. 18. Franklin Henry Giddings, Ph.D., LL.D., Professor of Sociology, Vital Statistics (illustrated); Mar. 25. Henry E. Crampton, Ph.D., Adjunct Professor of Zoology, The Problems and Results of Experimental Embryology (illustrated); Apr. 1. Alexander P. Anderson, Ph.D., formerly Curator of the Herbarium, Starch, its Properties and Uses (illustrated).

The New Babies' Hospital.—The new building of the Babies' Hospital of the City of New York, on the northeast corner of Lexington avenue and Fifty-fifth street, which was begun in August, 1901, is now completed, and the institution is moving in. The first, or entrance floor, is divided into two parts, the western half, entered from Lexington avenue, being devoted to the dispensary. From a large waiting room open a general medical room, a room for the chief physician, and a small isolation room, where suspicious cases may be examined. There is also a small surgery. The eastern half of the building, entered by the main doorway on Fifty-fifth street, contains the secretary's office, a clinic seating forty students, an ante-room, a room for the Clothing Committee, etc. The pathological laboratory of the hospital has been largely used for research as well as in routine work. This year an appropriation of $700 has been made by the Rockefeller Institute for Medical Research to maintain a worker in the laboratory for the ensuing year.

PHILADELPHIA.

Changes in Number of Contagious Diseases.—During the week ending November 1 there were reported 107 cases of typhoid fever, an increase of 17. No new cases of smallpox were reported. The entire number of deaths was 339, a decrease of 77 from the previous week.

Medico-Legal Society Banquet.—The Medico-Legal Society of this city celebrated its Twenty-fifth Anniversary, Oct. 28, with a banquet. The society has for members the representatives of both medicine and law. The toasts and those who responded to them were: "The Medical Profession," Dr. Thomas H. Fenton, President of the County Medical Society; "The Legal Profession," John W. Umstead, of the local Bar; "Sister Societies," Dr. William M. Welch, President of the State Medical Society. The branches of the county association were answered for thus: "North Branch," Dr. Albert H. Eaton; "South Branch," Dr. James B. Turner; "Northwest Branch," Dr. Wendell Reber. Dr. David Riesman spoke for the Northern Medical Association.

Myasthenia Gravis.—At the October meeting of the Philadelphia Neurological Society, considerable discussion was had on the above topic. Dr. A. A. Eshner reported a case in detail, the patient being a woman of 39. Associated with the myasthenia gravis in this case was angioneurotic edema, an association of diseases which Dr. Eshner has not found noted in the literature. He believes there is need of an entire re-examination as to the pathogenesis of myasthenia gravis. The theory of a vasomotor lesion seems inviting to him. Probably both manifestations in the case reported were due to the same underlying condition.

Symptoms of Myasthenia Gravis After Repeated Electric Shocks.—Dr. C. K. Morton detailed this case. The patient was a man of thirty years whose work as a lineman necessitated his receiving from 20 to 600 times daily a current generated by from four to six dry cells. There was no history of previous illness for the past eighteen years, no syphilitic history, no alcoholism. Weakness in the hands, arms and legs was noticed, with difficulty in swallowing. At the end of the second day he was unable to walk, at the end of the third day he could not lift his head or turn himself. Tendon reflexes were gone. Sensation was normal. The patient soon afterward began to improve and at the end of the twenty-second day is much better. One point is that the rapid exhaustion of myasthenia gravis was not noted at the end of an examination which lasted for more than an hour. Treatment consisted in absolute rest, light diet, calomel, potassium iodide 60 grains three times daily, and tonics.

Bulbar Paralysis Simulating Myasthenia Gravis.—This case was reported by Dr. C. K. Mills. The patient developed a symptom-complex resembling myasthenia gravis two days after receiving an electric shock from a current of 1,300 volts. The disability began as difficulty in expectoration, articulation, and swallowing. About five months afterward the man was in a trolley accident and later developed weakness of the extremities which he attributed to the accident. This is not thought to be the case, all the symptoms being due to electric shock.

Perforation of Intestine Probably Due to Traumatism.—Dr. G. G. Ross reported this case at the Philadelphia Academy of Surgery Nov. 3. The patient was a man who was struck on the abdomen by a box. This was soon followed by pain, nausea, vomiting, and shock. Operation was performed within six hours. The abdomen was found to contain some fluid which was removed by thorough flushing of the cavity. The intestine was then examined and a perforation found 12 inches from the cecum. The mucous membrane protruded through the opening in the other coats. The opening was closed and the patient made a satisfactory recovery.

Marjolin's Ulcer.—Dr. J. Chalmers Da Costa, in a paper on the above subject, cited two instances of ulcer of the leg which developed into carcinoma and discussed the relationship of the two conditions. The theory of irritation as a cause of cancer was mentioned. Though this seems to be supported by clinical findings it must not be forgotten that there is excessive production of tissue in both innocent and malignant epithelial growths and that a malignant growth following irritation does not prove that the irritation was the cause. No theory of causation explains all the phenomena of cancer. The differential diagnosis between chronic ulcer and a malignant growth involving it was considered in detail by Dr. Da Costa, who emphasized the importance of thoroughly examining every chronic ulcer before a diagnosis is made. Every doubtful case should be studied by a skilled pathologist. But even this tribunal is not infallible as evidenced by the fact that a growth of the tongue and also one of the leg were pronounced carcinoma by pathologists but promptly healed when the patients were given mercury and the iodides. A point to remember is that the mere presence of atypical epithelium does not prove it to be a carcinoma. Their unrestrained reproduction is necessary, as is their involvement of sound tissue surrounding the growth. A number of sections which include the growth and a portion of the apparently sound tissue surrounding it should be studied. If that sound tissue shows no infiltration of epithelial cells, the diagnosis of cancer should be rejected. The same should hold in examining the tongue—remove a portion of the surrounding tissue, as well as some of the growth, for microscopic study.

Obituary.—Dr. Daniel E. Hughes, chief resident physician of the Philadelphia Hospital since 1890 died in that institution Oct. 28 aged fifty-two years. Dr. Hughes graduated from Jefferson Medical College in 1878. He practised for a time in Williamsport and then returned to this city to accept the position he held until his death. Dr. Hughes made a special study of the insane and became an alienist of acknowledged authority. He was also a practical therapeutist of exceptional ability. His "Practice of Medicine" has run through a number of editions. He was one of the founders of the secret order known as the "Mystic Shrine." Contributions to a fund for the erection of a tablet in the Philadelphia Hospital to the memory of Dr. Hughes are being made.

CHICAGO.

How to Care for the Sick and Injured at a Big Fire.—Seventy firemen of the downtown district in the clinic room of the Harvey Medical College were recently given a free illustrated lecture on this subject. Dr. Henry W. Gentles, who was in charge of the ambulance corps at the World's Fair, was the speaker. The meeting was the first of a series that will be given for the benefit of firemen. Each week a different topic will be discussed.

Benefit for Hospital.—The Citizens' Aid Association has arranged an attractive program for a concert to be given Nov. 12, for the benefit of the Alexian Brothers' Hospital.

Cost of Illinois Hospitals.—For three months, ended Sept. 30, the State Board of Charities reports that the receipts of the fifteen institutions under its jurisdiction, including cash on hand July 1, were $744,176.52, and expenses $553,376.15. The outstanding indebtedness was $76,134.97. To meet this, the institutions had $268,131.54, on hand, or subject to call, making the net surplus at the end of the quarter $191,998.57. The net per capita cost at all institutions was as follows: Elgin Insane Hospital, $37.48; Kankakee Insane Hospital, $34.31; Jacksonville Insane Hospital, $31.40; Anna Insane Hospital, $35.92; Watertown Insane Hospital, $33.13; Peoria Insane Hospital, $35.14; Asylum for Insane Criminals, $60.70; Deaf and Dumb Asylum, $30.34; Blind Asylum, $50.06; Feeble-Minded Asylum, $37.31; Soldiers' and Sailors' Home, $33.16; Soldiers' Orphans' Home, $44.13; Soldiers' Widows' Home, $58.49; Eye and Ear Infirmary, $56.22; State Training School for Girls, $44.17.

Sanitary Inspection of Public Schools.—The reputation of Jacob A. Riis as a sociologist is well-known. He has expressed surprise at the defective plumbing which was shown to exist in many of the Chicago schools, and he has called attention to the menace which this condition presents to the health of the entire city, and he describes the satisfactory results already obtained through the New York system of medical inspection. Only the most competent physicians are employed under the latter system, and they have absolute control of the sanitation of the public school buildings. These inspectors have not only prevented the spread of contagious diseases by vigilant examinations of children, but they have stamped out such ailments as ophthalmia, or granular eyelids, which science has demonstrated is spread by contagion. It will be remembered, that a good start was made in the direction of an adequate system of medical inspection in the schools of Chicago when Dr. Christopher secured the appointment of medical examiners to prevent the spread of contagious diseases. But the scope of their inspection should be extended to sanitation, and everything that pertains to the health of the pupils, and the force should be enlarged.

Consumption Hospital.—Public attention has just been called to the seriousness of the problem of tuberculosis in Chicago by the refusal of hospitals, it is said, save the County institution at Dunning, to receive consumptive patients. It is folly to criticize these institutions for their unwillingness to expose their patients to the infection of pulmonary tuberculosis. The hospitals were not built or designed for the isolation or proper treatment of consumption, and if consumptive patients were admitted to any one of them, all the other patients would have to be transferred to other institutions. The problem of segregating consumptives and checking the spread of the disease is much more serious than that presented by any other communicable disease, for the reason that persons afflicted with it may engage in business and social activities for months or years before succumbing to its ravages. It is estimated that there are about six thousand people afflicted with the malady in Chicago. If these could be segregated in a sanitarium and put under proper treatment, the most of them could be cured and the rest of the population saved from infection. Few of them can afford to go away to the sanatoria that have the advantage of favorable climatic conditions and environment. What is needed is a city hospital and sanitarium for the isolation and treatment of consumptives who are unable to leave home. The State should also follow the lead of New York and Massachusetts in establishing a great State institution for the treatment of consumption.

Drinking Fountains for Public Schools.—At a recent meeting of the City School Board, Dr. Kuflewski offered a resolution to the effect that the business manager be instructed to prepare and submit to the board a plan for a drinking fountain to be used in all the public schools that will provide a method of taking water without placing the lips to any vessel. Such plan to include a constant stream of water in such quantities as will assure sufficient amount for drinking and cleansing purposes. The report of the sub-committee appointed to investigate the school drinking water supply and recommend means of obtaining pure water informed the trustees that at present nothing better could be suggested than to continue to shut off the water supply. Professors Long, of the Northwestern University Medical School, and Jordan, of the University of Chicago, who had made chemical and microscopical examinations of the water, told the sub-committee that sterilizing would be palliative, but not remedial.

Appointment of Dr. Schmidt.—Dr. Louis E. Schmidt has been appointed clinical professor of genito-urinary surgery at the Northwestern University Medical School.

Chicago Pasteur Institute.—Since the opening of this institute in July, 1900, 1,538 patients have been treated, 745 of whom came from Illinois, 166 from Ohio, and 112 from Iowa. One thousand three hundred and eighty-two were bitten by rabid dogs, 9 by hydrophobic human beings, and the remainder by various animals. The deaths reported are 7, a mortality of 0.45 per cent.

Higher Standard for Nurses.—The physicians of Chicago are urging the establishment of a higher standard for trained nurses, so as to prevent the graduating of inexperienced young women. In this city several institutions now issue diplomas to students after four or six months' study. Two of them are merely correspondent schools, and are instructing nurses in all parts of the Middle West.

Recovery of Professor Matthews.—Professor Albert P. Matthews of the Department of Physiological Chemistry of the University of Chicago is recovering from an attack of appendicitis.

CANADA.

Montreal's Health Good.—For this time of the year, Dr. LaBerge, the Medical Health Officer of Montreal, reports that the health of that city is extremely good. There is only one case of smallpox in the civic hospital, and that a very mild one. The death rate last week was down to 102.

New Sewage Disposal System for Toronto.—For more than twelve years the City Council of Toronto has had before it the question of providing a more extended and improved system of sewage disposal. At last it has decided upon one definite step, and that is to submit to the ratepayers at the municipal elections in January the entire question and let them decide whether the work shall proceed at once or not. Dr. Sheard, the Medical Health Officer, has made strong recommendations in favor of septic tanks and filtration on a sewage farm, the initial cost of which will be in the neighborhood of $2,385,000. The cost of maintenance of this system will, it is estimated, be $76,000 annually.

Toronto Western Hospital.—The reports submitted at the recent annual meeting of the Board of Governors of this institution, show that the hospital is in a very flourishing condition. During the past five years, the Western Hospital has made great headway, and has increased its work fourfold. In that time it has accumulated a surplus of $13,000; and it is the intention of the Governors at an early date to erect a large modern wing for the accommodation of 100 patients. The following medical men were elected on the Board of Governors: Drs. A. A. Macdonald, Price Brown, J. W. McCullough, J. B. Gullen, John Ferguson and G. H. Carveth. An addition to the visiting staff to the extent of nine practitioners was made.

Training Asylum Attendants.—The Ontario Government has decided to adopt the plan of training the attendants in the various asylums of the Province. The new course will provide for instruction of the attendants similar to that received by hospital nurses. Attendants entering on the course will be required to remain at the institutions at least two years, receiving lectures and training, after which time they will be granted a diploma.

New Professor of Hygiene at McGill.—The Medical Deparment of the University of McGill has decided to recommend to the Board of Governors the name of Dr. T. H. Starkey, of the University College Hospital, London, England, for the position of Professor of Hygiene, a chair which was rendered vacant through the death of Dr. Wyatt Johnston. Dr. Starkey is one of the leading hygienists of England, and before entering on his present appointment at University College Hospital, had secured much valuable training in sanitation and hygiene in India.

Immigration Medical Officer Appointed.—In view of the large increase of immigration into Canada, the Dominion Government has appointed Dr. Leonard Ellis of St. Johns, N. B., medical officer to be attached to the Canadian Immigration Bureau, with special authority to enquire into the health and circumstances of all immigrants arriving at Canadian ports from the British Isles and European countries. In addition he will examine all immigrants rejected by United States officials, who endeavor to enter the latter country by way of Canada. It is the intention of the Government to restrict immigration of paupers and those afflicted with dangerous diseases. An Act was passed at the last session of parliament empowering the Government to deport diseased immigrants and prevent their landing in Canada.

Indians with Smallpox Causing Trouble in the West.—Some little while back reports were sent out from Helena, Montana, to the effect that Canadian officials had sent into the United States, Canadian Indians suffering from smallpox. This seems to be incorrect; a case practically of the boot being on the other foot. It appears that a band of American Indians were in Canada on a sixty days' pass from the United States Belknap Agency, paying a friendly visit to some Canadian Indians. Smallpox developed among them; and the agent of the Blackfoot Reservation was asked to receive them. As they did not belong to his reservation, he refused. Then the Canadian authorities provided them with proper medical attendance and when judged fit to be convoyed back to their homes again applied to the same agent to receive them. Refusal was again made, so they were despatched by themselves, and were consequently turned back into Canada.

Protestant Hospital for the Insane, Quebec.—A large new wing has recently been opened in connection with this hospital. The growth in the population of this hospital has simply been remarkable, and points to an increase of insanity to an alarming extent in the Province of Quebec. The first patient when the institution was opened was received in July, 1890. By the end of that year there were in residence 139 public and private patients. At the end of 1901 this number had grown to 411; and at the present time, a few months over twelve years after it was established, the institution contains 225 men and 200 women patients. The new wing has accommodation for eighty more patients. Dr. T. J. W. Burgess is the Medical Superintendent, and he has as assistants Drs. J. V. Anglin and C. A. Porteous.

GENERAL.

Changes in the Medical Corps of the U. S. Navy.—Week ending Nov. 1, 1902. Passed Assistant Surgeon W. B. Grove, detached from the San Francisco and ordered to the Prairie, for duty with the marine battalion aboard that vessel. Assistant Surgeon A. Stuart, ordered to duty at the naval hospital, Navy Yard, New York, N. Y. Assistant Surgeon S. S. Rodman, detached from the Alert, and when discharged from treatment at the naval hospital, Mare Island, Cal., ordered home and granted sick leave for two months. Surgeon H. E. Ames, ordered to the Texas. Passed Assistant Surgeon J. E. Page, detached from recruiting duty and ordered to the Newark. Assistant Surgeon A. W. Balch, detached from the Monongahela and ordered to the Machias. Assistant Surgeon C. H. De Lancy, detached from the Buffalo and ordered to recruiting duty with Ensign D. C. Hanrahan at Knoxville, Tenn.

Measles Kills Thousands.—Thousands of natives of Herschel Island and along the Arctic coast are dying from measles. The news was brought by the whaling steamer Jeanette, which arrived last Sunday. Captain Newth said: "At least twenty-five per cent. of the natives along the Arctic coast have died from measles. They are dying off rapidly. The march of civilization has increased the death rate from Nome north. Two years ago the devastation began, and it has continued since. When the natives began to wear civilized man's clothing and drink whisky then began their decline. Diseases attacked them and, not knowing how to care for themselves, the people died rapidly. Pneumonia, rheumatism, grip and other maladies made their appearance and spread along the coast with appalling results."

Negro Cocaine Fiends.—It has been learned, writes the Sun, that cocaine as well as whisky was peddled by the whisky pirate ship Hazel, whose skipper, Capt. Hull, was recently arrested on the Mississippi River, charged with shooting the Sheriff and other citizens of Chicot County, Ark. In his defence, Hull explains that he did not introduce cocaine among the negroes of the Yazoo Delta, but merely did what a great many planters are doing—supplied the demand for it. The cocaine habit began among the negro roustabouts of New Orleans, who found that the drug enabled them to perform more easily the extraordinarily severe work of loading and unloading steamboats at which, perhaps for seventy hours at a stretch, they have to work, without sleep or rest, in rain, in cold and in heat. The pay is high, $150 a month, but the work is impossible without a stimulant. Whisky, while protecting the negro against the rain and cold, did not give him the endurance against fatigue that was needed. Cocaine proved to be the very stimulant needed. Under its influence the strength and vigor of the laborer is temporarily increased, and he becomes impervious to the extremes of heat and cold. But cocaine is filling the insane asylums with wrecks. From the roustabouts the cocaine habit spread to the levee camps along the Mississippi, where the work is hard, and the conditions of life and work unfavorable. Finally it reached the plantation hand and here it got the same foothold. While the work on the cotton plantation is not so hard as levee building or loading steamboats, still at the cotton picking season it calls for extraordinarily long hours. As there is never enough labor to pick all the cotton it is to the interest of the planters to have the negroes work as much extra time as possible. The planters therefore hold out every encouragement to the negro hands to put in a big day's work. The negroes found that the drug enabled them to work longer and make more money, and so they took to it. Its use has grown steadily. On many of the Yazoo plantations this year the negroes refused to work unless they could be assured that there was some place in the neighborhood where they could get cocaine, and one big planter is reported to keep the drug in stock among the plantation supplies and to issue regular rations of cocaine just as he was accustomed in the past to issue rations of whisky. Cocaine has not been in use on the river plantations long enough to do the harm it has done in New Orleans, but the problem is looming up as an important one. In the meanwhile the efforts to prevent the spread of the cocaine habit in New Orleans and other Southern cities have been quite successful. It has been found impossible to cure the cocaine fiends who are fast drifting to the insane asylums, killing themselves or being killed, but it has been found possible to stop the future sale of cocaine in the drugstores and to keep the younger negroes from taking up the habit. The negroes themselves have been very active in this movement, and the police have shown so much energy that the public sale of the drug has almost ceased in New Orleans. A crusade against the use of the drug has begun in most of the towns, but as yet no effort has been made to prevent its sale in the country districts.

Increase of Insanity in London.—According to the London Truth the annual report of the Asylums Committee of the London County Council shows that the increase of lunacy in London last year was greater than it has been in any year since 1896. On Jan. 1 last the number of London lunatics under the cognizance of the Asylums Committee had reached the total of 22,155. A new asylum was opened in March last for the accommodation of 2,000 patients, and already the committee has under consideration the necessity of proceeding with the construction of another building in order to provide for the estimated increase of 500 cases per annum. At this rate the burden of providing for over half a million lunatics will be imposed, by the end of the century, upon the unfortunate inhabitants of London who manage to retain their sanity. Among the causes of insanity in patients admitted hereditary predisposition is held accountable for 27 per cent. of the cases and alcoholic intemperance for 17 per cent. If it were possible, however, to investigate fully the family history of every patient, it is quite likely that alcohol might be proved to play an even more prominent part in the causation of insanity than these figures indicate. Bearing on this question, a most interesting history of a family of inebriates appeared recently in the Quarterly Journal of Inebriety, accompanied by a genealogical table for four generations. The first generation comprised a married couple of good social position, who apparently did nothing to forfeit their reputation. They had two daughters, one of whom died a raving maniac at 40 after a life of the wildest excess. The second married and had eight children. Of this third generation, two males are drunkards and alive, five daughters died of phthisis, the sixth married and after bringing seventeen children into the world became a drunkard and opium-eater. Ten of these seventeen, comprising the fourth generation, have died from phthisis, one has drifted into a life of immorality, one suffers from phthisis, one died from an overdose of morphine taken when drunk, one committed suicide, and three suffer from suicidal mania in varying degrees.

Alcoholism and Insurance Risks.—According to the N. Y. Evening Post efforts are being made abroad to organize total abstainers into what is known as a "super-standard" class of life risks. The movement is the result of a careful investigation into the death losses of life companies, with the result that much valuable data has been accumulated to show that persons who do not use alcoholic beverages make altogether the best class of policy-holders for an insurance company to have. The subject has been studied before by actuaries in this country, and although authorities are not in agreement as to the exact effect of such indulgence, the feeling is general that it adds materially to the ordinary life risk. In cases where policy-holders have been attacked with a serious disease, it has been found that the chances of recovery decidedly favor those who do not use stimulants of any kind. One foreign expert cautions the companies against making any allowance for even moderate drinking. This, he says, may easily lead to excess. He adds: "The outlook for a man who should fall ill with pneumonia, typhoid fever, dysentery, nephritis, heart disease, diabetes, and affections of the liver is bad enough under the best circumstances, but if the patient is an intemperate man his hope for recovery is reduced very materially, and the fight for life is desperate, if not hopeless. Every physician who has had much emergency hospital practice, or even private practice, among the intemperate, can assent to these statements. It is known that men who follow hazardous occupations are frequently liable to injuries. In case the party injured is temperate his chances for recovery from the injuries and the surgery incident thereto are far in excess of the man who uses intoxicants. Since inheritance plays such a great rôle in life insurance, and many a risk personally good is rejected on account of bad ancestry, would it not be also well to consider, not only the physical features of a risk who has drunken ancestors, but also the moral features of such a risk in all its bearings? Namely, intemperance is usually frequent among the vicious and those of low habits, who frequent all kinds of resorts, the dive, the brothel, the levee—all places of great risk to health and life. The children of heavy drinkers are personally poorer risks than those whose ancestors led temperate and pure lives. Instances might be multiplied to show the many correlative combinations in which intemperance is a factor as a great hazard in life insurance. Under present conditions are considered two kinds of risks alone, the standard and so-called substandard. The first embraces all those who can pass a satisfactory examination and can get an unmodified policy at the usual rates; the second embraces all those who can pass only a partially successful examination, and can obtain a policy with some modifications and inserted conditions. This expert makes a plea for the establishment of another class of risk other than the two already existing, and which for want of another or better name he calls the super-standard class. This class shall possess all the good qualifications of the standard risk, namely, good family history, free from taint of disease, bad habits, longevity, personally good health, and in addition to all this they must be teetotalers. There are a sufficiently large number of these who take life insurance to justify the creating of such a class of super-standard risks, to whom policies should be issued at reduced rates. This is no more than just to them, as they should not be compelled to pay for the shortcomings of that large majority, who, aside from what good traits they possess from a life insurance standpoint, are most of them drinkers of intoxicants, who vary all the way from the worst inebriates up to the regular every-day tippler and the so-called thoroughbred sport.

Scranton Medical Society and Tuberculosis.—For some time past a number of the leading members of the Lackawanna County Medical Society have been impressed with the necessity of having the health authorities of Scranton take more active measures to prevent the spread of consumption and reduce the death rate from that disease to a minimum. At a recent meeting of the society it was decided, after a general discussion, to appoint a special committee to draft a memorial covering its views on this most important question. That the society should undertake in the city of Scranton an active campaign against tuberculosis, or consumption, which is the most frequent disease throughout the civilized world. It causes 150,000 deaths in the United States yearly, about 8,000 in Pennsylvania, and considerably over 100 in Scranton. In Scranton the annual rate of deaths from consumption is increasing. It causes one-third of all the deaths between the ages of 15 and 65.

Ravages of Cholera.—The ravages of cholera in the Old World are set forth in mail advices received by the Marine Hospital Service. From Manila Chief Quarantine Officer Perry makes a conservative estimate that 75,000 cases of cholera have occurred in the Philippine Islands since March 20 last, with a mortality of 75 per cent. He says under date of Sept. 19 that the disease has disappeared from those provinces first infected, but those most recently infected are suffering severely. The Province of Iloilo and the adjacent island of Negros are badly infected, and the situation is alarming. Some of the towns in these provinces have lost 10 per cent. of their population, and the epidemic continues elsewhere. In Japan the latest advices show that there have been 4,329 cases and 1,650 deaths from cholera. In China the Provinces of Hunan and Shansi are most affected. The disease is epidemic at Nanking, which reports 40,000 deaths; at Shoo-Yanghsien, with 3,000 cases a day, and a number of other cities. In Hongkong since the beginning of the outbreak there have been 459 cases and 396 deaths, but the local authorities declare the colony free from plague infection. Surgeon General O'Reilly has received a report from Lieut. W. J. L. Lyster of the medical department, who is attached to the United States Legation Guard at Peking, from which it appears that the American soldiers are the only foreigners who have escaped the epidemic of cholera up to date. According to a report of the Director-General of the Egyptian Department of Health, the cholera epidemic continues to claim a large number of victims. The number of cases registered during the week ended Sept. 15 amounted to 9,467, with 8,278 deaths. Of the 28,520 cases of cholera registered between July 15 and Aug. 15, 23,684 were fatal. In Alexandria during the week ended Sept. 15, 64 cases of cholera occurred among Europeans, with 41 deaths, and during the following five days 35 cases and 25 deaths were recorded.

University of California.—A development of the equipment of the University of California's College of Medicine, to consist of a clinical hospital that will cost $400,000, has been proposed in a report submitted by a committee representing all interested factors in the university administration.

University of Michigan.—The new Medical building in its exterior is completed. It is hardly probable that the interior will be finished before the end of the semester. One of the most important changes that has taken place in the faculty is the resignation of Dr. Eliza Mosher, professor of hygiene and Dean of the women in the university. She has gone into private practice in Brooklyn.

OBITUARY.

DR. FREDERICK A. PACKARD.

Death at the outset of a promising career is pathetic, but the death of one in the heyday of success has a tragic character which intensifies the bitterness of personal and professional loss. This must be the feeling of the many friends of Dr. F. A. Packard, whose death from typhoid fever in his 39th year took place in Philadelphia, on November 1st.

Few men exemplified better that high type of physician seen now in many American cities—more often in this country than elsewhere—a man of birth and breeding with hereditary attachments—he was the son of the well-known surgeon, Dr. I. H. Packard—and early affiliation with all that is best and noblest in our profession. Combine such advantages with a nature of singular sweetness and firm gentleness—"manhood fired with female grace"—and add a devotion to the study of medicine, the outcome of the 40th year is apt to be a product of rare value in a community. Such was Fred Packard as his friends knew him.

After graduating at the University of Pennsylvania, he served as Interne in the University and Pennsylvania hospitals and then began to practice in his native city. His tastes early led him into clinical medicine and he became one of the demonstrators in the University School and assistant physician to the Hospital. The Transactions of the Pathological Society and the files of the Medical News bear witness to the activity of his early years, and he quickly became recognized as one of the most capable among the younger clinicians of the country. He was elected on the staff of the Philadelphia Hospital and after serving as assistant physician to the Children's Hospital became full physician. With such opportunities his sphere of usefulness widened and he became known to successive classes at the University as a zealous and conscientious teacher. The election to the physicianship at the Pennsylvania Hospital still further extended his field of clinical study. In the rearrangement of the development of medicine, after Dr. Pepper's death the prospects of promotion at the University seemed slight and he gave up active teaching to devote himself wholly to hospital work and general medical practice. His acknowledged skill and singular charm of manner placed him in a position among the very best of the practitioners of his city. In recognition of his intimate relationship with the Medical School for so many years and of his standing as a citizen he was elected a member of the Board of Trustees of the University.

From the outset of his career Dr. Packard was an active contributor to medical literature. Upon the diseases of the heart, in which subject he was particularly interested, he made many contributions. His papers on Typhoid Fever, on Trichinosis, on the Visceral relations of Tonsillitis, and his recent contributions on Paget's disease may be mentioned as models of accurate clinical presentation. All of his work bore the stamp of care and thoroughness.

But the man in Dr. Packard was greater than the doctor and it is that feature that makes his loss so deeply felt in a wide circle, professional and social. A warm affectionate nature made him beloved by his colleagues and patients who had learned to value his judgment as a physician and to seek his advice as a trusty friend. That such a man should have been taken in the midst of his days of usefulness is indeed an irreparable loss. To his father, an honored veteran in our ranks, and to his brother, Dr. Francis R. Packard, the Editor of the American Journal of the Medical Sciences, we extend our deepest sympathies.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, October 25.

A ROYAL PROCESSION—THE KING'S PHYSICIANS CONSPICUOUS BY THEIR ABSENCE—AN INVESTITURE AT BUCKINGHAM PALACE—HONORS FOR MEMBERS OF THE MEDICAL PROFESSION.

To-day our gracious sovereign King Edward VII. is driving through some eight miles of his capital to show himself to such of his lieges as may care to go and look at him. This procession is intended by way of compensation to Londoners for the loss of the promised "show" in June. His Majesty exhibits himself to his people in all the pride, pomp and circumstance of Kingship. Except that he rides in a carriage, the situation is exactly that described by Thackeray when he wrote of King Canute:

'Twixt the Chancellor and the Bishop walked the King with steps sedate,
Chamberlains and grooms came after, silver sticks and goldsticks great,
Chaplains, aide-de-camps and pages—all the officers of State.

In the crowd of dignitaries and Court officials, however, that accompanies the King, the doctors to whom he owes his life are conspicuous by their absence. This is in accordance with court etiquette which is founded on medieval superstitions and the traditions of a past order of things. The medical profession which in this country is, as a class, commendably free from the spirit of flunkeyism, bears the slight put upon it by exclusion from the State ceremonies with the fortitude born of indifference. Men like Treves could hardly think it high honor to ride in a carriage with grooms-in-waiting and women-of-the-bedchamber. Yet the fact remains that as Sergeant Surgeon to the King he is a Court official and as such it seems strange that he is not considered worthy of a place in the royal procession. The fact that neither he nor his colleagues, one of whom is Lord Lister, are regarded as worthy of that honor is a striking proof of the social inferiority which is the badge of the medical tribe in this land of freedom which is still haunted by the ghost of a dead feudalism.

The King who is the "fountain of honor" is ready enough to show his gratitude to his medical counsellors by the bestowal of distinctions such as he showers on successful tradesmen. But in a social sense he does not shed the light of his royal countenance upon them. Neither his physicians-in-ordinary or extraordinary, nor his honorary physicians and surgeons are invited to Court functions; nor are they asked to dine with the King. If His Majesty deigns to sit at the same table and to play bridge with some of them at the house of a financial magnate, who has been graciously allowed to prove himself a friend in need, this is done in the strictest privacy. The King might be granting the social recognition implied in these privileges, remove one of the grievances most keenly felt by the medical officers of the army, their systematic exclusion from some of the military clubs. But he is not likely to do so, for such mind as he possesses is hidebound by etiquette and precedent, and, like the French chamberlain who thought the monarchy in danger because Lafayette appeared before the King without the regulation stockings, Edward Rex would think that the admission of doctors to the sanctuary of his Court might be the first step towards a revolution.

It has been said that the medical profession, if its social position is not all that might be desired, has no reason to complain of the want of titular distinctions and decorations. Yesterday the King held an Investiture at Buckingham Palace. Among those "invested" with the insignia of various orders were the President of the Royal College of Physicians of London, Sir William Church, a worthy man who was a mighty cricketer in the days of his youth and is said by his friends to know something of medicine; Sir Henry G. Howse, President of the Royal College ot Surgeons of England, Surgeon to Guy's Hospital, whose early career was one of meteoric brilliancy, of which in later life the appearance of more dazzling luminaries has somewhat paled the ineffectual fires; and the Presidents of the Scottish and Irish Colleges, with the Director-general of the Army Medical Service, and a few medical officers of the various public services. These are to be looked upon as decorations given to the office rather than to the man. Personal distinction is recognized in the honors bestowed on Professor MacEwen of Glasgow and Mr. Victor Horsley. Sir William MacEwen is beyond all question the best of all our surgeons still on the active list. He is the pioneer of brain surgery, and of his work in many other provinces of surgical knowledge and practice it may be said with truth that *nihil quod tetigit non ornavit.* He is however what the Scots call a "dour" man, with more than the reticence characteristic of his countrymen, and with an utter want of talent in the way of self-advertisement; hence his name is not nearly so well known to the public as those of men who have reached the pinnacle of fame by walking in his footsteps. Sir Victor Horsley, a later and somewhat less successful though not less bold explorer than MacEwen, in the undiscovered country of the brain, needs no sacred bard to sing his praise; his candle has been set in a candlestick where all may see it. Of late years he has allowed himself to be dragged into the muddy arena of medical politics. He is successful as a stump orator, but his performances, though they tickle the ears of the groundlings, make the judicious grieve. It is felt that he is giving up to a party what was meant for mankind. The name of Mr. Alfred Cooper, on whom the "honor of knighthood" has also been conferred, is probably unknown to America. Sir Alfred is however one of the best known of the medical fraternity in London. In early life it was his fortune to be thrown much in contact with guardsmen and other scions of the aristocracy who when suffering from the displeasure of Venus sought consolation from him. When in course of time they subsided into matrimonial virtue, Cooper was established as the family oracle. In this manner he acquired a large practice in the fashionable world. His professional connection with the royal family has, it is understood, been like Sam Weller's knowledge of London, extensive and peculiar. He accompanied certain members of it to St. Petersburg many years ago, and had to deal with an abscess in the regions which he has taken for his province. Things looked ugly, but all ended well. Sir Alfred Cooper may be said to be connected with the royal family by marriage, for his wife is a sister of the Duke of Fife. Nothing perhaps could show more clearly the social position of the medical profession in this country than the fact that though the lady had a past, and her offense was so public that Society shut its doors against her, it was considered a *mésalliance* when she married a doctor. Another new knight is Sir William Job Collins, a medical graduate of London University, surgeon to one of the minor hospitals for diseases of the eye, and formerly chairman of the London County Council. He is perhaps best known as a determined opponent of vaccination, an attitude of mind which he inherits from his father, who after years of service as a public vaccinator lost faith in what the son styles "the Jennerian rite," and denounced it with the zeal characteristic of the convert. Sir William Collins was a member of the Royal Commission on Vaccination which was in labor for seven years and finally brought forth the "conscientious objector." He was one of the two members who signed the minority report. Apart from his heresy, the medical profession might justly be proud to claim him; but unorthodoxy on the vaccination question brands a man with a mark which no scientific merit in other directions can efface. It is this which quite lately drove Professor Crookshank from the Chair of Bacteriology at King's College, and which has made Charles Creighton, a really brilliant man, author of a History of Epidemic Diseases which is a monument of erudition, and for some years Demonstrator of Pathology at Cambridge, a professional Ishmael. Sir William Collins has had harsh treatment from his profession. He was undoubtedly the most brilliant man of his day at St. Bartholomew's Hospital, and might fairly have looked to getting an appointment on the staff. The authorities would have nothing to do with a man whose father was an "anti vack" (*sit venia verbo,* which by the way is Jenner's own). Young Collins therefore shook the dust of the place off his feet and looked for an outlet for his intellectual energy elsewhere. He has done good work for science in the London County Council, for it is to his initiative that the establishment of the pathological laboratory for the lunatic asylums under its control is due.

Sir Arthur Conan Doyle, owes his knighthood to his literary work, and to the part he has taken in calling attention to deficiencies of one kind or another in the British Army. He is a medical graduate of Edinburgh but soon gave up the practice of physic for literature. He served as physician in one of the field hospitals in South Africa, but his object in going out was avowedly to gather materials for the history of the war which is said to have brought a rich reward exceeding great in solid cash.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

SPONTANEOUS RUPTURE OF THE UTERUS, OCCURRING DURING LABOR, SUCCESSFULLY TREATED BY OPERATION—DIPHTHERIA IN BRETONNEAU HOSPITAL—RELATIONS OF ANOPHELES AND MALARIA—PUNCTURE OF THE SPINAL CORD FOR STUPOR—THE DIFFICULTIES OF ISOLATING THE BACTERIUM COLI IN COLONIAL DYSENTERY—RESEARCHES IN GENERAL ANESTHESIA BY ETHYL CHLORIDE—OPERATIONS ON EXTRA-UTERINE PREGNANCY.

The fall meetings of the French Societies have begun with their usual number of interesting papers.

Richelod read at the meeting of the Academy of Medicine, October 7, 1902, an observation of spontaneous rupture of the uterus successfully treated by operation, sent in by M. Lafourcade of Lyons, of which the following is an epitome: The woman was forty-two years old, a multipara, and was taken in labor the 3d of last May. Labor was prolonged. The patient suddenly experienced a "tearing sensation" in the abdomen, with unspeakable pain, and soon the contractions of the uterus stopped altogether. The diagnosis of rupture of the uterus was made, and a laparotomy was immediately done. An incision of the abdominal wall was made and the fetus was found in the midst of the coils of intestines. It was brought into the world, and then the matrix was brought into the wound and divided close to the vagina. The peritoneal cavity was cleaned entirely and the abdominal wound was closed. Before the end of three weeks the patient had entirely recovered. Upon examination, the rupture occupied the left border of the uterus and presented a vertical portion between twelve and thirteen centimeters long between the two folds of the broad ligament, and a transverse portion five or six centimeters long on the front surface, just below the isthmus. The uterine tissue examined by the microscope showed normal characteristics, except at certain points, where small nodules of embryonic cells were found, which might be attributed to a light degree of interstitial myositis. It is difficult to explain just why this rupture took place, because the woman had enjoyed such perfectly good health and had previously had four normal, uneventful childbirths.

Josias communicated, in the name of Tollemer and himself various statistics of cases of diphtheria observed in the Hospital Bretonneau since the 12th of March, 1901, (the day when the Bouchut Pavilion was opened), to March 1, 1902. The number of children afflicted with true diphtheria, showing the Klebs-Löffler bacilli, cared for during this period was 580, with 76 deaths, or, in round numbers, 13 per cent. This should be reduced to 10 per cent., because 18 of the children should properly not be counted, because they were sent to the hospital so nearly dead of the disease that they lived less than twenty-four hours after admission. Of the other 58 children, who lived more than twenty-four hours after admission, 29 died from a secondary broncho-pneumonia. This secondary disease should be regarded expressly as the principal cause of death. A significant feature of the attacks is that the disease possessed a high degree of contagiousness, and therefore the children afflicted were isolated just as soon as possible. So far as treatment is concerned, he believes it should be begun just as soon after the disease is discovered as possible. Every child as soon as it is admitted to this hospital, receives, on the same day, under the skin of the abdomen, an injection of 10 to 30 c.c. of antidiphtheritic serum, according to its age and the severity of the attack from which it is suffering.

Laveran read notes concerning his investigations in the Island of Corsica, as to the relations between mosquitoes and malaria. He states that he found the *Anopheles* species in all parts of the island where malaria abounds. For instance, of 182 mosquitoes captured in various swampy localities, 157 were *Anopheles,* while 25 were *Culex.* Of the *Anopheles,* fully 86 per cent. belonged to the *Anopheles maculipennis* species.

Moty, a military surgeon, narrated observations of his upon a young soldier during the greater part of a year, who had suffered from a stupor, lypemaniacal in character. Two punctures of the spinal cord, carried out four days apart upon this young man were followed by disappearance of the mental trouble.

Lesage, at the Academy of Sciences, September 1, 1902, read a paper on the difficulty of isolating normal *Bacterium coli* in dysentery in the colonies. To be more exact, these difficulties were greater during certain periods of the disease. For example, he found the normal bacteria in only six cases out of twenty-six, distinguished by prompt coagulation of milk and the special odor to cultures which the germ gives. In the second period of the disease, he found it only 18 times in 63 cases. In all the other patients in both series, he found the paracolon bacillus. In the third or last period of the disease, on the other hand, he always found the normal bacillus. In looking for causes of this transformation from the normal coli into the pericolon, he was convinced that the cultures of the latter, which seemed to be in the first pure, contained in reality other formations of this germ.

LeDento, at the Society of Surgery, October 1, 1902, presented in behalf of H. Jirard, a surgeon in the Marine Service, a report concerning general anesthesia by chloride of ethyl. He has studied minutely the effects of this anesthesia in man and animals, and his observations confirm entirely those which have been published previously. In spite of the optimistic hope of many extremists, it is certain that chloride of ethyl, given in large doses, may bring about deadly symptoms. This Jirard has easily proved in animals. On the other hand, compared with some of the other anesthetics, it possesses comparative harmlessness. It may be applied with advantage as mixed anesthesia.

Picqué read a paper on operations for extra-uterine pregnancy in behalf of Chevalier. In the first patient there was a rupture of the extra-uterine pregnancy, with a flooding of the peritoneal cavity. The operator interfered at once and saved his patient. Her recovery was perfect. The second case simulated disease of the appendix, and Chevalier made the incision of McBurney, which proved the appendix to be sound, but there was a blood-tumor of considerable size formed by a rupture of the pregnancy. Here again recovery was without incident. The last woman, suffering from the same condition, was operated on with similar success, and differed from the others only in that it was further advanced, because he found the embryo separated from the blood clot.

SOCIETY PROCEEDINGS.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting Held October 6, 1902.

Dr. Hurd, in the absence of Dr. Osler, in the chair.

Aneurism of the Aorta.—Dr. McCrae showed two cases, one a thoracic and the other an abdominal aneurism. The first was a male thirty-three years old, a plumber and trapeze-performer. The patient gives no definite history of syphilis. In 1898 he was struck in the chest by a car, and two weeks later he was again struck in the same place. Two weeks after this he had dyspnea and felt as if there were a valve in his throat. He was treated in one and another hospital for several months before a diagnosis of aneurism was made. On one occasion, in November, 1899, while acting as orderly in a hospital he fell while carrying a patient. On his first admission to the hospital in January, 1900, the diagnosis was made of an aneurism of the right subclavian artery. There was marked pulsation in the right infraclavicular space and the right clavicle was distinctly raised at each systole. Operation was advised, but was refused by the patient. He was in the hospital some weeks and was markedly improved by rest and the administration of potassium iodide. After his discharge he was readmitted twice during that year on account of attacks of pain, brought on by overexertion in each case. In November, 1901, he came in for the fourth time; his cough was so rasping and there was such a stridor present during respiration that the diagnosis of aneurism was made by several of the resident physicians who were on the floor above when the patient came in. At this time there was dilatation of the whole arch, vocal paralysis, inequality of pulse and pupils, and the fluoroscope showed that the tumor had extended well to the left of its original limits. The pulsation was also plainly visible above the manubrium. At the present time there is a large tumor occupying the site of the manubrium and extending to the left of the sternum. The left clavicle is lifted during systole, not the right, as at his first admission. The noteworthy features in the case are: (1) The fact that overexertion brought on each attack of pain and dyspnea; (2) the traveling character of the aneurism, it having passed from the right subclavian artery to the arch of the aorta and extended thence well to the left of the transverse portion of the arch; (3) the entire absence of pressure symptoms at this time, although these were present earlier during his illness.

The second case was also that of a man thirty-three years old and without a definite history of syphilis. On admission at the end of 1899 there was marked epigastric pulsation, and on deep palpation an expansile tumor could be clearly felt. Operation was decided upon, and in January, 1900, Dr. Finney opened the abdomen and found a large aneurism at the origin of the celiac axis. He inserted about nine feet of wire into the aneurism and passed a weak electrolytic current through it for one hour. The patient did well after the operation and was soon sent out in good condition, there being no longer any expansile character to the tumor. He has recently returned complaining of abdominal pain and of inability to walk more than a short distance without stopping to rest. This latter condition, known as "intermittent claudication," is usually associated in man with marked arteriosclerosis. The present case supports the view that the condition is dependent upon circulatory rather than nervous disturbance. As is well known, intermittent claudication is most frequently found in horses and is there dependent in almost every case upon the presence of a verminous aneurism. The hind legs are almost always affected in horses. It is to be noted that the patient has at the present time a full epigastrium, with a wide area of pulsation and an expansile tumor. The leading features of the case are: (1) The temporary success of the operation; (2) the existence of intermittent claudication, and (3) the existence of abdominal aneurism in so young a man. If a second operation is not thought advisable by Dr. Finney it seems as if gelatin injections would be the best form of treatment for this patient.

There is little doubt that in both these cases syphilis was the etiological factor.

Splenic Anemia.—Dr. McCrae showed a patient who was first admitted on the surgical side of this hospital in December, 1890. He had a leg-ulcer at the time, which was diagnosed as syphilitic, probably incorrectly. In 1901, he was admitted on the medical side, complaining of a large spleen. He gave a history of having had jaundice and fever while in Mexico 17 years ago. He was told by a doctor in Mexico that his spleen was very large. On admission in 1901 the patient was very anemic and his skin had a sallow hue. There was local pigmentation, fever and jaundice. He had a large spleen and his blood-count was as follows: Hemoglobin, 53 per cent.; red blood-corpuscles, 3,500,000; leucocytes, 6,000, with a normal differential count. Rest and arsenic brought about a decided change in the patient's condition. At the present time he has another leg-ulcer and is very anemic. His spleen has not diminished in size. The blood is about the same as it was last year, except that a number of nucleated red blood-corpuscles are now present. The present features in the case are: (1) The existence of so large a spleen for a period of 17 years, it being possible that the large size is due to malarial or syphilitic infection, though neither seems a likely cause; (2) the absence of ascites, of hemorrhage, and of marked hepatic symptoms. It is the most chronic case of splenomegaly on record here.

Before showing the case, Dr. McCrae called attention to the fact that the term "splenic anemia" included a group of cases with two features common to all—a large spleen and anemia. Some of the cases show in addition gastric hemorrhage, and others hepatic cirrhosis. It is to the case with cirrhosis that the name of "Banti's disease" is given. In a case such as the present the treatment can only be that of anemia. Excision of the spleen is but rarely indicated.

The Treatment of Aural Exostoses.—Dr. H. O. Reik showed a patient who had noticed a defect in his hearing two years ago. An exostosis was discovered at that time just within the external auditory meatus. It has increased in size quite rapidly and now nearly closes the meatus. Exostoses of this type are most frequently seen in divers, and it is to be noted that the patient shown gives a history of having been in the water a good deal. The condition usually follows chronic suppuration, which leads to periostitis, and this goes on into inflammation of the bone. In every text-book which has been consulted, with the single exception of the American Text-book of Diseases of the Eye, Ear, Nose and Throat, the advice is given that aural exostoses should only be operated upon under two conditions—such growth preventing the escape of secretions, or the affection in the opposite ear being such that without the removal of the exostosis the patient would become deaf. Many lines of treatment other than operative have been recommended. The first of these was the use of silver nitrate, and there were recommended after this, in succession, dilatation of the canal, boring through the growth, and more recently, electrolysis. All these are known to be painful and lengthy methods. A review of the literature shows that 129 cases have been reported in which operation was tried and in which there was no otitis media, past or present. Every case was cured or relieved of deafness. In only two per cent. was there any postoperative infection, and even in these cases there was eventual recovery. On the other hand, in the reported cases where no operation was done, death followed from mastoiditis, meningitis, or postoperative destruction of the drum-membrane. It would seem therefore as if surgical treatment should be recommended, and that early. The operation is very simple. If the growth be near the auricle it can be removed with a few blows of the chisel; if near the tympanum, Knapp's operation may be done. In this operation an incision is made back of the auricle, which is then pulled forward so that the growth is attacked directly at its base.

Dr. Randolph said that exostoses such as had been presented that evening were in general such slow-growing tumors that he felt as if most of them were better off without operation unless the special indications which have been mentioned arise. He remembered seeing a case in which after operation the whole side of the patient's head swelled up and recovery was very slow. Such intense reactions often follow operative procedure. In this particular case he was inclined to follow the progress of the case very carefully before deciding on operation. If operation were indicated, silver nitrate, though slow, is of great value. In one of his patients for whom operation was clearly indicated, he bored through the growth with silver nitrate, of course extending the treatment over a considerable period of time, but eventually getting a perfect result.

More Radical Operation for Carcinoma Cervicis Uteri.—Dr. J. A. Sampson presented a paper embodying the results of his pathological study. He concludes that metastases after operation for cancer of the cervix occur in very minute lymphatic glands in the pelvis, or in the periureteral tissues, so frequently that a much more radical operation than is at present done seems to be indicated in a majority of cases. Dr. Sampson's paper will be published in full in the November number of the Johns Hopkins Hospital Bulletin.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

October 20, 1902.

Dr. Osler in the Chair.

Aneurism of the Aorta.—Dr. McCrae presented a case of aneurism whose traveling character was even more striking than that of the case shown at the previous meeting. The patient, a male, forty-nine years old, was taken sick in September, 1901, with a cold and cough but without expectoration. Later he had pains in the thorax, but continued to work, however, until December of the same year when he was admitted to this hospital complaining of a cold and shortness of breath. He had had rheumatism when eight years old, used alcohol in moderation and was by profession a coachman, often exposed to severe weather. He denied syphilis. On admission, at that time, there was a heaving impulse at the manubrium but none in the episternal notch nor was there any diastolic shock. The manubrium was dull on percussion, there was no pulsation in the back, no tracheal tug, no impairment of voice, and no inequality in the radial pulses. After ten days the patient was discharged improved. He continued to work until July, 1902, when he was again admitted complaining of a cold and cough and of pain in the thorax. He voice was now distinctly husky. He was admitted for the third time on October 15, 1902, with pain in the thorax, huskiness of voice, dyspnea, a cough with a remarkable "goose" quality, and loud stridor during respiration. On examination the patient was found to have prominetnt and visible pulsation in the third right interspace, a diastolic shock and dulness on percussion over the pulsating area, but no tracheal tug. There was tympany over the right lung in front. On the following day there was dulness over the front of the left lung as well as restricted respiratory movement. On October 18 the prominence disappeared from the right side and became evident on the left, where there was a palpable shock and a heaving impulse in the first and second interspaces. The apex of the heart was outside of the nipple line. The condition of the lungs was interesting. On admission the right lung was evidently pressed upon, but 24 hours later the right lung became quite clear and the left quite dull. Vocal fremitus was retained over the left lung. There was a systolic murmur audible at the base of the heart as well as over the right side of the chest. The left radial pulse is now distinctly weaker than the right. The noteworthy features of the case are, first, the change in the aneurism itself, the signs being transferred from the right to the left side; and second, accompanying this, a change in the physical signs of the lungs.

Dr. Osler remarked that it was unusual to have such marked disappearance of aneurismal signs. Occasionally after operation the pulsation disappears from the aneurism and the sac shrinks. A marked frequent cause of disappearance of the signs, however, is in cases where the signs of aneurism are really due to the so-called dynamic pulsation of the aorta, in cases of aortic insufficiency following ulcerative endocarditis or anemia.

Aneurism of the Aorta; Death from Gastric Hemorrhage.—Dr. Osler reported a case of a male, forty-five years old, who was admitted to the hospital in February, 1901. He had had pains in the left side and dyspnea since the summer of 1900. He had slept for months in an erect position, but had had no cough nor dysphagia. He had been losing weight. At that time there was a diffuse impulse, best felt on the left side. There was no diastolic shock nor aortic murmurs. The right radial pulse was distinctly felt. The patient was discharged improved. He was admitted the second time in August, 1901, again complaining of pain and dyspnea. There was slight dulness over the manubrium, diastolic shock but no thrill. There were pain and tenderness in the abdomen but no marked gastric symptoms. In August, 1902, the patient was admitted for the third time, distinctly anemic and complaining of cramps in the abdomen. There was a diffuse impulse in the chest without any localizing signs. On October 14, and again on the 15, and 19, he vomited large quantities of bright blood and passed a considerable amount of changed blood per rectum. He died on the evening of October 19. Aneurisms of the aorta may be grouped into those that give signs and those that give symptoms. An aneurism of the intrapericardial portion of the aorta may give neither signs nor symptoms. An aneurism of the transverse arch usually gives both, as is readily understood when one recalls the confined space between the manubrium and the spine. Aneurism of the terminal portion of the arch or the thoracic aorta usually gives symptoms but no signs. In this particular case the aneurism was found to belong to the third group. It was adherent to the spine of the thoracic vertebræ, which it had commenced to erode. When the aneurism was found the question arose as to how it could have been the cause of death. On further examination, however, the cause was found, not in the aneurism but in an ulcer of the stomach, which had eroded one of the gastric arteries. It cannot be called a latent ulcer for there had been some gastric symptoms.

Four Cases of Skin Cancer Treated by the X-Rays.—Dr. Gilchrist reported four cases apparently cured by this treatment. The first case is that of a female who, five and a half years ago, noticed a "white wart" on the right lower eyelid. Remaining quiescent for a year, it then spread down the cheek and was first seen two years after its appearance. Operation was advised but was refused. The growth extended from the outer canthus of the right eye to the angle of the mouth and thence up to the nose. In appearance it resembled a rodent ulcer. No glands were palpable and the growth caused no pain. The X-rays were used daily with exposures of ten to fifteen minutes duration. After 29 exposures the edges of the ulcer became raised and surrounded by an inflammatory areola. A section of the tumor made before treatment showed it to be a true epithelioma; section made after the 50th exposure from a corresponding spot in the growth shows no epithelial down-growth whatever. At present nothing is to be seen but a smooth, supple scar. The lower eyelid is everted and there is an exudate over this which keeps up some irritation. No glands are palpable.

The second case is that of a male who noticed a "seed wart" on the left side of the nose four or five years ago. After a time it became irritated and spread and finally perforated the ala of the nose, the perforation being about the size of a pea. When first seen the growth was an exuberant, granulomatous one but no glands were palpable in the vicinity. The treatment lasted for three months. There were 63 daily exposures and 20 more at short intervals. Following the foreign method, the growth was curetted before the X-rays were used. At present the lateral surfaces of the growth are definitely cured. The upper portion is apparently cured. The patient has received no treatment for a month. The third case is that of a male who noticed a "white wart" on his lower right eyelid eight or nine years ago. A year later this extended to the iner canthus of the eye and thence to the nose. On two separate occasions it was curetted at the Presbyterian Hospital in this city and the patient returned home apparently cured, only to find recurrence after a time. When first seen the growth involved the upper eyelid and eyebrow and extended on to the nose, covering an area 8 cm. in horizontal extent and 7 cm. vertically. The patient received daily treatment for four months. At present there is but a slight lesion left in the center which most certainly will yield to the treatment. There are no glands palpable.

The fourth patient, a female, thirty-eight years old, was unable to be present at the meeting. Four years ago she noticed a pimple on the side of her nose. Its appearance was like that of a rodent ulcer with "rolled edges." The center was like a scar. A section made four months ago showed that there were still epitheliomatous cells left but the groups of these were surrounded by lymphoid cells and were evidently being destroyed. No glands were palpable. The growth measured 23 by 17 mm., its edges were raised about one-third of a millimeter above the level of the skin. It extended over the bridge of the nose. Following the method of treatment recently seen in London, the edges of the growth were pared down with a knife before exposure to the X-rays. After 20 exposures the ulcer definitely broke down and the rolled edges became soft. When the patient was seen four months after the treatment ended the ulcer had entirely healed. The patient is now in good condition. The treatment was continued after a slight interval of rest.

Dr. Gilchrist remarked that use of the X-rays marked a definite advance in the treatment of skin cancer. At the present time we have learned to know that (1) The X-rays will cure a rodent ulcer, except when the pericranium or periosteum or other deeper structures are involved; (2) The X-rays have no bactericidal power. Their action is cumulative and reaches deeper than that of chemical reagents; (3) When used on the skin they have a stimulative action if the current be weak and a destructive action if the current be strong. The X-rays apparently select the malignant cells and it is therefore urged by some that a strong current be used even at the risk of causing X-ray burns. For the treatment of skin cancer a medium soft tube is recommended, with a current of 3 or 4 amperes. Personally, he used a self-distance of from 5 to 6 inches, sometimes less. The treatment usually lasts 15 minutes but may be as long as 30 minutes. During the course of the treatment a mild redness appears over the growth and hairs become loosened. The effect varies with the idiosyncrasies of the patient. Burns usually occur, if at all, in one week. They may, however, be delayed for months. He had recently seen 34 cases in Manchester which had been perfectly cured by the X-rays, and Finsen reports 45 cases cured by the X-rays. For the avoidance of burns a special glass tube has recently been devised, which is opaque except at the ends. An induction coil may be used and gives entire satisfaction. Thick tin foil is found to be as good as lead for the plates, especially if it be covered with layers of blotting paper. In view of the importance recently attached to the Finsen-rays, it may be noted that a combination of the Finsen-rays and the X-rays has been suggested for certain cases, the X-ray being especially adapted for the ulcerative part of the growth and the Finsen-ray for the nodular elements. The cosmetic results obtained by the Finsen-rays are wonderful.

Studies in the Embryology of the Kidney.—Mr. Max Brödel remarked that the general embryology of the kidney was well enough given in text-books but that there were certain interesting points not given in them to which he wished to call attention. In his previous paper* he had shown that in seventy per cent. of adult kidneys, the main vessels entered the organ in front of the pelvis. The present study of the kidneys of embryos was undertaken in order to dertermine the reason for this arangement. The kidneys were taken from fetuses varying in age from three and one-half weeks to eight months, which were procured through the kindness of several physicians in the city. When the embryo is four weeks old, the kidney, as it ascends from the pelvis, slides between the umbilical vessels and the Wolffian duct. At the fifth week it passes through the umbilical vascular fork and now becomes an abdominal organ. At the sixth week it is distinctly above the umbilical vascular ring, the upper poles swing out of the pelvis, which, though formerly anterior, is now inclined toward the mid-line. If there is to be a horseshoe kidney the fusion must take place before this period. At the eighth week the kidney fits into its lumbar pocket, whose shape is determined by the curve of the abdominal wall, the adrenal gland and the sexual gland. The pelvis becomes inclined posteriorly and it is at this time that the vessels enter the organ. The anterior half of the kidney is nearer the aorta, hence the vessels enter anterior to the hilum. The anterior portion of the kidney thus gets its blood first, and is correspondingly more rapidly developed. If the kidney ascends into the pelvis without rotation, *i.e.*, if it retains the position which it occupied at the sixth week, then the vessels enter posterior to the hilum. This condition is seen in thirty per cent. of adult kidneys.

Cryoscopy as an Index to Renal Insufficiency in Surgical Diseases of the Kidneys.—Dr. M. B. Tinker said the term "cryoscopy" was derived from the Greek word *cryos*, meaning frost. In November, 1882, Raoult introduced cryoscopy as a laboratory method in chemistry. Extensive experiments have been made since then and now the freezing point of almost every standard solution is well known. The law is fairly constant that a given solution containing a given quantity of solids, freezes uniformly at the same temperature, within limits of the thousandth part of a degree. In 1897, Koranyi first applied cryoscopy to medical purposes, at Budapest. Although the German literature on the subject is already large, only two English papers of importance have been observed. Ogston of Aberdeen reported six cases in which he used the method, and Huddleston of New York reported certain cases in which he used the method. His thermometer, however, registered only fortieths of a degree. The freezing point of a fluid is lower, the more solids it contains; salt water freezes at a lower point than fresh water and in like manner albuminous urine freezes at a lower point than normal urine. If the waste of the body be normally excreted, the freezing point of the urine varies but little. The same is true of the blood, where it has been shown that under normal conditions the variations do not exceed two one-hundredths of a degree. In twenty cases in which Dr. Tinker had tested the method, the variation in the freezing point of the blood did not exceed one one-hundredth of a degree. There was more variation found in the freezing point of the urine, the limit being from —0.9° C. to —0.2° C. As to the accuracy of the method, in two cases in this hospital where pus-kidneys were present, the freezing point of the urine was very low. In other cases, where at operation there was considerable disease of the kidney found, but where there was still sufficient healthy tissue to excrete the waste of the body, the freezing point was not much altered. As to the simplicity of the method, twenty c.c. of fluid are needed for a good determination. In the case of blood, one can usually get sufficient from the superficial veins, withdrawing it with a syringe, as for blood cultures. The whole procedure, including the preparation of the ice and salt mixture, does not take over three quarters of an hour. As to the relative value of the method when compared with other clinical methods, the freezing point gives an index, not only of the weight of the excreted solids, but of the number of molecules of such solids. Thus information is gained which a knowledge of specific gravity will not give. The determination of the freezing point is more satisfactory than that of the urea excreted, for the latter varies considerably, and after all urea is only one of the substances excreted. The percentage of albumin or sugar cannot be determined by cryoscopy, but in surgical kidneys cryoscopy does tell whether there is enough healthy kidney to excrete the body waste.

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* Johns Hopkins Hospital Bulletin, 1901, Vol. XII, p. 10.

Dr. Young remarked that there was great need in determining more than had been known about the condition of the kidney. Urea determinations had proved of little value and he had great hopes that cryoscopy would fill a real need. Kasper uses double urethral catheters and takes the freezing point of urine from each kidney. He finds the results in a large number of cases, to correspond very closely with those of his fluorizin tests. In these tests, as is well known, fluorizin is injected subcutaneously and produces an artificial glycosuria. The diseased kidney excretes but little sugar. In the application of cryoscopy, the main objection to it would seem to lie in the difficulty of getting sufficient urine for the tests. The instrument, however, can probably be made smaller than it is at present, and the tests will then be of the greatest value for clinical determinations.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Surgical Section.

Proceedings of the Twenty-Eighth Annual Meeting, Held at Kansas City, Mo., Oct. 15, 16 and 17, 1902.

(Continued from Page 805.)

Dr. Geo. W. Crile of Cleveland, O., delivered the Address in Surgery. He selected for his subject, "Operations for Cancer of the Mouth and Neck." The author's summary is as follows:

In the past three decades there has been a continuous decrease in the operative mortality, and with the single exception of the brachiogenic cancers, even a more notable increase in the percentage of cures has been accomplished. Especially in the last decade there has been evidence of more confidence in operations as indicated by an increased number of cases submitted early. The supreme importance of early diagnosis and early and radical operation is becoming widely recognized. The same may be said of the so-called precancer stage. especially of the tongue. Except in cancer of the upper jaw, the disease is now regarded as involving the regional lymphatic system. The disease may be found in the lymphatic vessels and lymphatic glands. It rarely extends to other parts of the body. Physiological and clinical evidences show that severing the thoracic duct causes but little disturbance, owing to its free anastomosis; that the effect of resection of the internal jugular vein is practically *nil;* that unilateral resection of the vagus does not alter the heart's action, the respiration, nor the digestion, but produces a permanent hoarseness only; that division of the superior laryngeal causes anesthesia of a part of the larynx, but pneumonia is improbable; that division of the inferior laryngeal causes paralysis of the corresponding vocal cord, but interference with respiration is not marked; that the division of the spinal accessory has but slight effect on account of the double nerve-supply to the sternomastoid and the synergistic action of other muscles; that the division of the hypoglossal causes temporary interference with speech and swallowing, but compensation occurs; that the submaxillary and salivary glands may be removed without symptoms; that the removal of the sternomastoid muscle is not followed by torticollis, etc., on account of the synergistic action of other muscles. The complete removal of the lymphatic system of one side does not produce pseudo-elephantiasis of the face and head. Permanent closure of the external carotid has an operative mortality of one to two per cent., due to thrombosis and embolism. Permanent closure of the common carotid or internal carotid is attended by an operative mortality of about three per cent., but in the cancer period of life from 20 to 30 per cent. of cerebral complications follow, about 50 per cent. of which prove fatal. Temporary closure of the carotid by means of a special clamp, as shown in the writer's 43 cases, in which neither death nor cerebral complications occurred, is both efficient and safe. These physiological and clinical data lead to but two objective points in unilateral operations for cancer of the mouth or neck; namely, complete removel of the disease and preservation of the blood-supply to the brain. If necessary, sacrifice every other structure between the skin and the place of the deep muscles of the neck. Loss of blood is the greatest operative difficulty and danger. If hemorrhage is likely to be considerable the common carotid should be closed during the operation. In the mouth cases an anesthetic may be administered through rubber tubes passed through the nostrils to the level of the epiglottis, with the tongue well drawn forward. The pharynx may then be packed with gauze, so as to form an air-chamber in the lower larynx effectively, and prevent blood from entering the pulmonary tract. The dissection should be made on the same plan and as thoroughly as in the radical operation for cancer of the breast. The greater ease and certainty with which diagnosis may be early made in this region, and the rarity of extension of the disease beyond the glands of the neck, should enable the surgeon to obtain even better results here than in cancer of the breast. The hope of the patient lies in early diagnosis, early operation, and a logical technic.

Cancer of the Rectum.—Dr. Emerson M. Sutton of Peoria, Ill., reported cases of cancer of the posterior vaginal wall penetrating to the submucosa of the rectum, with fibrous but non-malignant infiltration around the rectum producing stricture. He operated by the sacral route, resorting to the von Volkmann-Rose incision. He resected the vagina, rectum, and one-half of the cervix, anchoring the healthy end of the sigmoid to the gluteal incision side of the wound. He mentioned other cases from the literature, and then gave reasons for attempting operations for extensive cancerous growths situated in the pelvis.

Treatment of Extensive Rectal Strictures.—Dr. Emil Ries of Chicago pointed out the difficulties in treating these strictures. He referred to septic conditions, anatomical changes, and the danger of recurrence. He discussed anastomosis after resection; end-to-end anastomosis; anastomosis without resection; side-to-side anastomosis after exclusion, and end-to-side anastomosis. He detailed his first case operated upon by the latter method, saying that the patient was well over five years after operation.

Ureteral Catheterism; Its Value in Male and Female.—Dr. Bransford Lewis of St. Louis, Mo., said the purposes of ureteral catheterism in connection with the cystoscope were for diagnosis and for treatment. Cases reported showed that ureteral catheterism, in both male and female, had been reduced to a practical procedure. With the author's cystoscope the operator was enabled to look directly on the field. Air was used for inflating the bladder. One or both ureters may be catheterized at the same sitting. The operation was performed under local anesthesia. Case I showed the falsity of an X-ray diagnosis of stone in the ureter. Case II showed chronic unilateral pyelitis and cystitis. Irrigations of the pelvis resulted in a cure. Case III was one of tubercular inflammation of the bladder and kidneys, which improved under irrigations. Case IV, hemorrhagic cystitis and bilateral pyelonephritis; under irrigations of renal pelvis was much improved.

Dr. Eastman of Indianapolis, Ind., thought a removable roof to facilitate withdrawal of the cystoscope, leaving the catheter in the ureter, would be an improvement.

Dr. Martin of Missouri found the introduction of the catheter easier than it would seem, and there was no trouble in withdrawing the cystoscope while the catheter was in the ureter.

The Mechanics of Intubation.—Dr. B. F. Gillmor of Creston, Iowa, discussed the mechanical problem of intubation, and exhibited drawings and X-ray plates. He emphasized the importance of acquiring manual familiarity with instruments, the means by which this may be acquired, and then alluded to the problems of intubation and the difficulties of extubation.

Laminectomy for Fracture-dislocation of the Fourth and Fifth Cervical Vertebræ.—In the case reported the author, Dr. Joseph Rilus Eastman of Indianapolis, stated that laminectomy was followed by improvement of motor and sensory conditions, but was unsuccessful so far as saving the life of the patient was concerned. Death occurred on the nineteenth day.

After going at length into the literature of the subject, the author said that laminectomy for fracture or dislocation should be made early. The earlier the better. The longer pressure had existed, the more extensive the degeneration of the cord. Still hope need not be entirely abandoned in old cases, for laminectomy had relieved many such even after months had elapsed since the injury was received. Laminectomy *per se* was not dangerous. It represented the surest method of diagnosis of fracture-dislocation, and the most rational and efficient means of relief.

Dr. Black of Jacksonville, Ill., advised early operation or exploratory incision. He said that 250 cases operated on out of a total of 555 cases in the literature showed 25 per cent. better results than the unreported cases.

Extrinsic Traumatisms of the Spine; Their Diagnosis, Pathology and Treatment.—Dr. Thomas H. Manley of New York, in a paper on this subject, said that in the present study of all lesions of a traumatic character sustained by the rachidian structures or the medulla spinalis not followed by clinical manifestations of central complication will be included under the term extrinsic. These were designated: (1) Contusions; (2) sprains; (3) hemorrhage; (4) fractures; (5) diastasis and luxation; (6) structural and visceral complications. The most frequent injuries, according to the author, were external to the spinal cord. They were rarely of such a character as to seriously impair function, although deformity and impairment of strength occasionally followed. No serious effort had yet been made by an American author to classify the pathology, to elucidate symptoms, or to establish the differential diagnosis in this important group of traumatisms.

Spinal Concussion.—Dr. Carl E. Black of Jacksonville, Ill., in presenting this subject, called attention to the loose way in which the term concussion of the spine was used, and to the unclassified condition of such cases. The best dictionaries were quoted to show that the word concussion is misused, and should only apply to the manner in which the injury was received. A great deal of misunderstanding had arisen from the attempt of various authors to use the word to describe a distinct disorder. The various authors on surgery were quoted to show that there was a misunderstanding among writers as to the scope of the term concussion. The work of Wm. Thorburn of Manchester, Eng., was quoted as being the only rational effort which had been made to classify these disorders.

In conclusion, the author took the position that minute or capillary hemorrhage was the basis of most, if not all, of these cases, and gave the following classification of injuries produced by concussion of the spine: Primary effects. (1) Sprains; (2) contusion of the spinal cord; (3) minute hemorrhage into or around the cord. Secondary effects or complications. (1) Shock or collapse; (2) acute hysteria; (3) neurasthenia; (4) chronic hysteria.

The essayist concluded with the following sentence: "It is certainly the duty of every surgeon to protect himself as well as any corporation he may represent and the best interests of his patient, by distinguishing if possible, between the purely psychical, secondarily psychical, and the truly pathological condition, and treatment should be directed accordingly."

Spinal-cord Injury—so-called Spinal Concussion of the Cord.—In this paper Dr. Frank Parsons Norbury of Jacksonville, Ill., stated that a scientific interpretation of concussion of the cord so-called had not yet been attained. The term had become established by long usage, and was largely used because of the want of a better term to cover the clinical picture which it aimed to present. The lesion was doubtless a disturbance of the circulation due to injury to the blood-vessels and lymphatics. Intramedullary hemorrhage was thought by the author to be the immediate lesion. This conclusion was supported by the observations of Kocher, Thorburn and Horsley on the surgical side of the controversy. Neurologists had varied views, some of which were decidedly hypothetic. However, most of them were inclined to the view that structural changes were probable, and that the degenerative and vascular changes, following injury to the cord, were indicated in the symptomatology of the disease. Facts were accumulating which made this view both tenable and reasonable. While many injuries to the cord showed no external evidences, the symptoms which followed indicated structural changes occurring within the substance of the cord, and irritation of the cord-roots by meningeal involvement. The symptoms in pronounced cases of hemorrhage were compared to the more obscure conditions called concussion, showing that hemorrhage was common in traumatism of the cord, and that similarity of sensory and vasomotor changes existed. The author said regarding the psychical element in cord-injuries that it was impossible to eliminate it. It was therefore important to recognize the definite and demonstrable symptoms, the symptoms which came on gradually, which in their entirety proclaimed the hemorrhagic origin of the disease. The neuropathology of to-day was leaning towards the organic origin of many diseases heretofore regarded as functional. Concussion of the cord was, in the judgment of the author, one of the most marked of these diseases, and he believed the research work of the future would establish this belief.

The X-ray in the Treatment of Malignant Growths.—Dr. Edwin Walker of Evansville, Ind., in his paper with this title, said that the X-ray had given favorable results thus far. Its exact status must be determined by clinical observation. He reported a case of alveolar melanotic sarcoma of the face, which was removed. The growth returned in two weeks and had extended to the neck. A secondary operation was performed a month later. There was rapid extension from that time, so that within a few days almost the entire neck was involved. The wound had not healed. There was immediate improvement after the use of the X-ray. The wound had cicatrized in two weeks, and all indurations had disappeared at the end of three months. The patient at this time seemed entirely cured. He spoke of the extent of the effects of the X-ray on pyogenic germs. A test was made both in test-tubes and Petri plates, the exposure to the ray being from 10 to 30 minutes. The results were negative. While the X-ray was of undoubted value in malignant growths, it should not be adopted to the exclusion of other known methods. Excision should be done, if possible, before the X-ray treatment was begun.

The Physiological Action and Therapeutic Uses of the X-ray.—Dr. C. M. Mutz of Douglass, Kan., followed with a paper on this subject, in which he dissented from the opinions of those who believed that the physiological and therapeutic uses of the X-ray may be intelligently studied without reference to its nature or genesis. It was not a "giant in chains," which physicians needed to approach in fear when they would unchain it, but no physician, in his opinion, should be content to use a therapeutic agent without inquiry as to its exact nature and the elements of its entity.

Relation of the So-called X-ray Burn to the Treatment of Malignant Growths.—Dr. J. Rudis-Jicinsky of Cedar Rapids, Iowa, contributed a paper in which he said that the action of the X-rays on the tissues was of marked electrochemical character. Irritation followed, and a regeneration of tissues was the result. Three factors determined the special effect on the cell: (1) Condition of the body, *i.e.* the amount of resistance the rays encounter; (2) the amount and intensity of the rays; (3) the character of the rays. When the irritation was moderate, the cells might be stimulated; but if prolonged or given in excess the change might be progressive in the tissues, leading to the so-called burn, regeneration, absorption, reabsorption, or to a total destruction of the cell. The author emphasized the protection of healthy tissues in radiotherapy, and other precautions in each case. He spoke of the selective power of the rays attacking diseased tissues first. He reported cases, with failures and apparent cures. He discussed the technic and selection of vacuum-tubes according to their burning-time; soft tubes or soft medium tubes for superficial growths, and high vacuum tubes for internal growths.

The X-ray Treatment of Cancer, with Report of Cases Cured.—Dr. Everett J. Brown of Decatur, Ill., discussed the subject under the following heads: 1. Technic; comparison of apparatus used; protection of the patient; protection of the operator; the distance of the tube; the time of exposure; the frequency of exposure, and the selection and management of tubes. 2. Description of X-ray dermatitis as compared with ordinary burns. 3. The remarkable influence of the X-ray on all low-grade tissue was superficial in location. 4. The uncertainty of results in treatment of deep-seated malignant growths. 5. Advantages of the X-ray treatment over surgery in many cases; (a) painless; (b) non-use of anesthetics; (c) less destruction of tissue; (d) astonishing results in many cases regarded as incurable surgically. 6. Report of cases cured.

Renal Calculi or Hepatic Calculi; Differential Diagnosis.—Dr. Charles E. Barnett of Fort Wayne, Ind., in a paper discussing this topic, declared that the X-ray in differential diagnosis was not as valuable here as in other regions. The author contended that it was impossible to make a differential diagnosis, and suggested cutting down and exposing the kidney, then being governed by the findings.

Cyst of Mesentery.—Dr. Herman E. Pearse, of Kansas City, Mo., reported a case of cyst of the mesentery that recovered after operation. He stated that cysts of the mesentery were exceedingly rare.

Through-and-Through Intestinal Suture.—Dr. F. Gregory Connell of Leadville, Colo., in a paper on this subject said that a through-and-through suture should be employed in preference to one that attempted to perforate but a portion of the entire intestinal wall, because (1) of less danger of yielding; (2) less danger of leakage; (3) smaller diaphragm; (4) adhesions were diminished; (5) there was less danger of necrosis; (6) there was no foreign body, and (7) there was a decrease in time. The most appropriate place for the knot of perforating stitches was in the lumen, and as many intentional non-perforating stitches were in reality unintentional perforating stitches, owing to the relative sizes of the needle and the submucosa, it might be stated that the ideal location for the knot in practically all intestinal sutures was outside of the peritoneal cavity in the lumen of the gut. The diaphragm, by its valve-like action, prevented leakage. The square or double stitch was superior to the circular stitch with its top knot. It was of practical import to have the last stitch, as well as the others, through all of the coats and knotted in the lumen. As the perforating stitch had been substituted for the Lembert by many, it might be said that if 12 Lemberts were bad and 10 perforating and two Lemberts were better, then 12 perforating were best. The author closed his paper with a description of the technic and a report of 54 cases.

Gastrojejunostomy with the McGraw Elastic Ligature for the Relief of Gastroptosis.—Dr. H. O. Walker of Detroit, Mich., began a paper with this title by saying that little had been done surgically for the relief of this condition. He reported three cases operated on successfully, and closed by saying that of all methods that had been suggested for the performance of lateral intestinal anastomosis, none, to his mind, possessed the advantages of the McGraw elastic ligature. Its special points are: (1) Its simplicity, which is far greater than that of any other method yet presented; (2) the ease and rapidity with which it could be done; (3) less liability to sepsis than by any other method; (4) no danger of a foreign body; (5) a larger opening could be made by it without liability to cicatricial contraction. Dr. Walker exhibited beautiful charts showing the steps of the operation.

Section Following Vaginal Puncture.—Dr. John Young Brown of St. Louis, Mo., spoke of the value of vaginal section in selected cases of pus in the pelvis. He called attention to vaginal section in contradistinction to so-called vaginal puncture. He alluded to the postoperative complications following vaginal section, as shown by a series of cases in which abdominal section was subsequently done.

Cancer of the Uterus in the Mississippi Valley.—Dr. Emory Lanphear of St. Louis said that Eastern surgeons did not operate on cancer of the uterus, while Western surgeons did. What was the result? The census statistics of 1900 showed cancer of the breast, on which all operated, East and West; cancer of the stomach, on which no one operated, and cancer of the uterus, as follows: East, cancer of the breast, 613 cases; cancer of the stomach, 1,785 cases; cancer of the uterus, 1,101 cases. Mississippi Valley, cancer of the breast, 874 cases; cancer of the stomach, 3,776 cases, and cancer of the uterus, 679 cases. The difference showed larger proportions of carcinoma uteri operated upon in the West, with either a cure or return of the disease in other organs; hence death was not included in the deaths from cancer of the uterus. Reports from 74 operators in the Mississippi Valley showed 274 cases which had lived more than five years. The diagnosis was confirmed by the microscope in most cases, a result encouraging for earlier diagnosis and prompter hysterectomy.

Abandonment of the Abdominal Belt After Celiotomy.—Dr. Maurice Kahn of Leadville, Col., declared his belief that if in consequence of his plea sufficient interest was aroused in the subject, it would be but a short time before the postoperative abdominal belt would be obsolete. He called attention to the direction of the muscular fibers, which intersected each other at angles varying from about 25 to 90 degrees. By reason of a common nerve-supply, the abdominal muscles acted synchronously. The excellent cancellated arrangement of the abdominal-muscle fibers made the gridiron operation the one of choice, for then the contraction of the muscles tended in itself to safeguard against hernia. He believed the straight-through technic to be the most effective factor in subverting an ideal result in most cases, not so much because the muscles were cut transversely as because of inaccurate suturing. The application of an abdominal belt, which, if tight enough to exert any influence, must relieve the muscles of their usual labor, resulted in the atrophy of non-use, whereas it would be desirable to have the hypertrophy of over-use. If it were possible to apply a belt internal to the abdominal wall, it might perhaps be of service in giving the cut edges an opportunity to firmly unite before any strain was imposed upon them. Such arguments could not be advanced in favor of the external abdominal belt, which would not prevent the exertion of pressure on structures internal to itself. It had been his practice for over three years, after removing the first dressing, which was applied snugly for comfort and removed at the end of a fortnight, to allow patients to go without any support.

Fibromyomatous Tumors of the Uterus.—Dr. L. G. Bowers of Richmond, Ind., called special attention to the importance of the early diagnosis of fibroids, thus leading to conservative methods of treatment. He enumerated some of the symptoms of fibroids that were many times attributed to other trivial causes by a superficial examination, and insisted that the patient be examined under an anesthetic and curetted at the same time if necessary. He pointed out that most of the literature dealt exclusively with the operative views, and that nothing was said about preventive measures. The early practice of such treatment often obviated the necessity for hysterectomy later on.

Treatment of Fractures of the Patella.—Dr. David C. Peyton of Jeffersonville, Ind., discussed the relative frequency of these fractures; the contractions of the quadriceps as an efficient agent in the etiology; the displacement of the fragments and the associated injuries to the soft parts; the diagnosis, and then outlined the advantages of treatment by open arthrotomy as compared with non-operative procedures.

Dr. Truman W. Brophy of Chicago gave a lantern demonstration of his method of operating on cases of cleft palate. He also exhibited patients upon whom he had operated, showing excellent results. The patients were able to articulate remarkably well.

Dr. C. E. Ruth of Keokuk, Iowa, discussed the subject of antistreptococcic serum in septic conditions.

A resolution was adopted, making the Mississippi Valley Medical Association a district branch of the American Medical Association. The constitution and by-laws of the former will be revised to conform to this change.

The following officers were elected: President, Dr. Edwin Walker, Evansville, Ind.; Vice-Presidents, Dr. Hugh T. Patrick, Chicago, Ill., and Dr. Wm. Britt Burns, Memphis, Tenn.; Secretary, Dr. Henry E. Tuley, Louisville, Ky.; Treasurer, Dr. Thomas Hunt Stucky, Louisville, Ky.

Memphis, Tenn., was selected as the place for holding the next meeting, in 1903.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, held at the New York Academy of Medicine, October 13, 1902.

The President, Andrew H. Smith, M.D., in the Chair.

A Symptom Indicating the Probable Development of Mastoiditis, and the Necessity for Early Operation.—The first paper of the evening was read by Dr. H. H. Alderton. He gave the details of a case recently met with in which acute inflammation of the middle ear on both sides followed an attack of tonsillitis. The presence of gas within the tympanum was found at the time of the primary incision of the drum membrane, and later, mastoid inflammation called for an operation on both sides. The greatest interest in the case lay in the fact of the existence of gas under pressure within the tympanic cavity, and the bearing this had upon the development of mastoiditis. Three days was time and more than enough to mark the advance from the comparatively slight destruction in the left mastoid to the purulent disintegration existing in the right mastoid cells. This was the second case of the kind that had come under his observation. As both were in private practice, and in neither case was the condition looked for, a bacterial examination at the time of the incision of the tympanic membrane was not feasible. The gas was evidently the product of bacterial development, but whether from an otherwise innocuous organism or from one of extraordinary virulence it was impossible to say. In the latter case the early and extensive involvement of the mastoid was easily explained, but if the gas was the product of an inoffensive bacterium existing in a mixed infection, it probably acted mechanically in disseminating the infection. The Eustachian tube being closed, the only escape the gas had was into the mastoid antrum and cells. His conclusion was that the presence of the gas was a symptom which indicates the probable development of mastoid empyema and the necessity for early operation on the mastoid process.

Nature of the Bacterial Infection.—Dr. Gorham Bacon said the occurrence of gas was infrequent. He did not think it indicated that mastoiditis would necessarily follow. The nature of the bacterial infection present was of great importance in determining the question of operation, and when the streptococcus was the cause of the trouble, it would almost certainly be necessary to operate. He referred to a case of double mastoiditis in which there was streptococcus infection on one side and staphylococcus infection on the other. On the side where the streptococcus was found there followed involvement of the sigmoid sinus, but on the other side no further involvement occurred.

Dr. E. B. Dench had had several cases where gas was found in acute inflammation of the middle ear, and in which he suspected the development of mastoiditis. The latter, however, did not actually occur. He emphasized the importance of an early incision of the drum membrane and the floor of the upper part of the tympanum, and said that the earlier the operation was done the better it was for the patient's hearing.

Dr. Fred Whiting had met with four cases of the kind described in the paper. In three the infection was due to the pneumococcus, and in the fourth to the streptococcus. The latter was the only one in which he found it necessary to open the mastoid cells, and he agreed with Dr. Bacon that streptococcus infection was almost certain to necessitate an operation. He said he would not be inclined to attribute as much significance to the gas symptom alone as Dr. Alderton had done.

Infection with the Bacillus of Dysentery, with Especial Reference to Its Rôle in the Summer Diarrheas of Children.—Dr. Simon Flexner, Professor of Pathology in the University of Pennsylvania, made an address on this subject. It would seem to be the tendency in modern medicine, he said, to characterize a disease by its etiology. Thus, grouped under the name of diphtheria are now many pathological conditions which formerly were not regarded as belonging to this affection; yet all were characterized by the presence of its distinctive micro-organism. This differentiation has been of great benefit to the subject of diphtheria, and so it seems likely to be the case as regards the group of symptoms constituting dysentery. The study of the causation of the latter disease has tended more and more to bring us to the conclusion that there is a specific organism constituting the etiological factor in the great majority of intestinal infections which go by the name of dysentery, and in 1898 Shiga's discovery was made known. As to the grounds upon which this organism is assumed to be the cause of this wide group of infections, it may be stated that the bacillus is never found in the intestine in a state of health, that it is present in various types of dysenteric disease, that animals may be inoculated with the disease with cultures from it, and that agglutinative reactions are obtained with it which can not be secured from any other organisms found in the intestinal canal. This bacillus was first isolated in the hospital at Tokio. Dysentery is a disease which is endemic in Japan. Frightful epidemics of it occur every year, in which thousands of persons are attacked, and the mortality is often as high as 50 per cent. Since 1898 the organism has been found in cases of dysentery in almost all parts of the world. We have been accustomed to think of specific types of the disease, as, for instance, amebic dysentery. The form which is characterized by the presence of amebæ dysentery. The form which is characterized by the presence of amebæ is well known as a chronic affection. It is much more common in tropical than in temperate climates, but never occurs as an epidemic. No false membranes are found, but there is much thickening of the gut. Many observers have been skeptical as to amebic dysentery as a distinct type, regarding the presence of the ameba as an epiphenonenon; but it is worthy of note that one or two cases of acute amebic dysentery have recently been reported from the Philippines. The *Bacillus dysenteriæ* has not been discovered in connection with it. The particular form of dysentery associated with the latter is an active disease, such as is met with in the great epidemics. Pseudomembranous colitis may be regarded as typical of it; yet the greatest variations are found, and false membranes are not infrequently absent. The affection tends to become chronic, and in this form of it there are proliferative changes in the intestinal mucosa, while exacerbations occur which are due to new developments of the organism. During the past season, under the auspices of the Rockefeller Institute of Medical Research, the opportunity was afforded to study the conditions met with in the summer diarrhea of children, and the work was carried on at the Thomas Wilson Sanitarium near Baltimore. At the beginning of the investigation the endeavor was made to obtain from the dejecta as many organisms as possible. All of these were tested with the blood serum of the sick children, and in no other instance than in the case of the Shiga bacillus was the agglutinative reaction observed. The cases were characterized by an acute onset, elevation of temperature, and the presence in the feces at some stage of mucus and blood. Of 51 or 52 cases of this character in almost none was there a failure to recognize the bacillus. There were other cases of a lighter grade, which might be designated as dyspeptic diarrhea, where the bacillus was not found. Some of these milder cases, however, afterwards became of a severe type, and then the organism was found to be present. The conclusions arrived at were that this bacillus is a stranger in the system, and that its etiological relation to the disease met with is shown by its presence, its constancy, and the peculiar blood-reaction obtained from it. As to the practical results of these discoveries, they seem likely to prove of great value, first as regards the prevention of the infection, and, secondly, as regards its successful treatment. As to the matter of prevention, the first consideration is to discover where the organism is found in nature. While at present we have no positive knowledge on this point, there is direct evidence to the fact that, like the germs of typhoid and cholera, it gains access to water. Like these organisms, it is easily destroyed, being killed by a temperature much below the boiling point. Proceeding on the general basis of vaccination, it is entirely feasible to protect small animals, like guinea pigs, against it. As it is almost impossible to get men always to drink boiled water in the tropics, it would perhaps seem justifiable that troops stationed in some parts of the Philippines, for instance, should be inoculated with the attenuated serum as a possible protection against dysentery. In the case of children inoculation would not be justifiable. What we would hope for for them would be the production of a serum which would prove successful as a means of treatment. In doubtful cases the blood can be tested for the agglutinative reaction, but in active cases it is best not to wait for the blood reaction, but to immediately examine the dejecta for the bacillus. If an effective serum can be produced it would seem justifiable to use it in suspected cases at the earliest possible moment. It is at present certain that with an immunizing serum it is perfectly easy to protect guinea pigs against a dose of infection which without such protection would inevitably prove fatal.

Local Experience.—Dr. Francis Delafield said that as regards the character and the treatment of the disease he feared he had not as yet got beyond local experience. There were a great many different conditions, and what was good for one was not good for another. Pretty regularly there was in New York an acute inflammation of the colon, attended with congestion and a free discharge of mucus, which might occur either in adults or in children. If the whole colon was involved the latter were apt to die, while the former generally recovered. Then, especially in hot weather, there was an acute inflammation (met with oftener in adults than in children) in which there was a very large transudation of serum. This, too, was likely to prove fatal to children. Its etiology did not appear to be settled. Again, there was a rarer form of inflammation, in which there was an infiltration of the connective tissue coat of the colon with pus, such as sometimes occurred in the stomach, and which behaved like the other streptococcus infections. So far as he knew it was always fatal. Still again, there was a colon inflammation with more or less necrosis. The glandular coat might be involved or the connective tissue coat, or the whole wall. The acute cases lasted about three weeks and might terminate in death. The chronic cases lasted for months and might also eventually prove fatal. There was another form of necrotic colitis, the croupous, and this would appear to come under the category described by the speaker. It was a form of dysentery met with in both temperate and tropical climates. Its severity depended partly on the part affected and partly on the intensity of the infection. He was somewhat surprised to find that Dr. Flexner regarded amebic dysentery as essentially a chronic affection. It seemed to him that the acute cases were not so very rare. There were acute, subacute, and chronic cases, and on the whole he thought there was much of this form of dysentery.

The First Ray of Light on the Etiology.—Dr. L. Emmett Holt said that as the result of the researches described we had the first ray of light on the uncertain etiology of our summer diarrheas. In the past many things were suspected, but very little had been proved. The blood reaction now obtained established something more than mere conjecture, and the isolation of the bacillus of dysentery in the diarrhea of children was a great step forward. It seemed to him that we were on the eve of great progress, and that the highest praise was due to Dr. Flexner for what had already been accomplished.

Identification of the Bacillus.—Dr. E. K. Dunham said there was but little difficulty in identifying the bacillus. While in Maine during the past summer he had had the opportunity of doing this in four cases, two of which were in adults and two in children. In three of them the agglutinative reaction was obtained, while in the fourth cultures were made from the dejecta.

Infection from Contaminated Milk.—Dr. H. D. Chapin said that in listening to Dr. Flexner's remarks it occurred to him that if the infection was conveyed in water, it might also be in milk. He was also struck by Dr. Delafield's remarks on local experience. In the summer of 1901 the mortality from infant diarrhea was very great in New York City. This could not very well be attributed to the milk as it was shipped from the country, since the same milk was used in the rural districts, and that season the death-rate was low there. During that year the streets of the city were very much torn up, and it seemed probable that some local infection was imparted to the milk after its arrival here. As the conditions were extremely favorable for such contamination of the milk, he could not but believe that this was the source of a good deal of the trouble.

Dr. James Ewing said that in regard to amebic dysentery his experience coincided with that of Dr. Delafield. The acute diseases did occur here, and cases of it were found among the troops in camp at Montauk Point during the recent war.

Are all Types of Summer Diarrhea Due to the Bacillus of Dysentery?—The question naturally arose whether all types of summer diarrhea are due to the Shiga bacillus. In some cases recently reported at the Pathological Society the disease was apparently not due to the organism, as no blood reaction could be obtained. As to dysentery, it seemed to him that Dr. Delafield had taken the correct ground. Some varieties were caused by the streptococcus and others were due to different causes. As to a protective serum, up to the present time anti-typhoid serum had proved practically useless, notwithstanding the fact that in the laboratory animals had been rendered immune from infection. He therefore thought it doubtful if a serum could be prepared of sufficient power to control this formidable disease.

Summer Diarrhea of Many Types.—Dr. Henry Koplik said there could be no question that the term summer diarrhea includes many types. We met with a great variety of cases, ranging from the very mild to the severe choleraic. Dr. Flexner had pointed out that certain cases are due to a particular bacillus, and, as Dr. Holt had remarked, this was certainly a great step in advance.

Dr. Henry Illoway thought the cases in children in which the Shiga bacillus was found should be designated simply as dysentery. The so-called summer diarrheas, he said, were made up of a large number of groups. Personally he designated as summer diarrhea only that variety which is caused by heat. The heat was the sole factor in its production, and if the child was removed to a cool climate, the disease at once disappeared. If removal was impossible, the disease could be successfully combated by the use of cold (the cold pack, etc.), plus such treatment as was required for the correction of dyspeptic symptoms. In this class of cases the bacillus could not be the cause, for the reason that the disease develops so rapidly and disappears so rapidly when the child is removed to a cold place. The other diarrheas were those met with in winter as well as in summer. He thought it would simplify the matter if Dr. Flexner would say that we have cases of dysentery in infants and young children.

Serum Treatment.—Dr. C. A. Herter related the case of a child five years old seen during the past summer in association with Dr. Theodore Dunham, in the treatment of which serum prepared by Dr. Flexner was employed. The serum was used for the following reasons: (1) The patient was desperately ill; (2) Dr. Flexner had demonstrated the fact that in animals his serum protects against the bacillus; (3) the bacillus of dysentery had been shown to be present in children suffering from summer diarrhea; (4) the experience of Shiga in the treatment of dysentery was borne in mind. Out of 500 cases at the hospital in Tokio, 280 were treated with serum, the others being treated in the ordinary manner. Shiga reported that the mortality among those receiving the serum treatment was very much less than in the case of the others. It was only nine or 10 per cent., while in the others it amounted to from 30 to 50 per cent., 39 per cent. being the average. He also reported that under the serum treatment there was a prompt amelioration of the symptoms and the course of the disease was materially shortened. In view of these facts the serum treatment was resorted to in the case in question. The child had been ill for nearly a week, repeated vomiting had taken place, and enemata could not be retained. There was great prostration, and several periods of collapse had occurred, in which it was feared the patient would die. For three days no food had been retained. About the seventh or eighth day of the disease there was much distension of the abdomen. The movements, which were very numerous, consisted of mucus stained with blood. Within the last thirty-six hours the patient had clearly lost ground. Injections of 10 or 12 c.c. of the serum, three times a day, or oftener, were then commenced. An immediate improvement was observed after the first injection. The number of movements was diminished and the tenesmus relieved, the temperature and pulse were lowered, and the patient became distinctly more comfortable. Restlessness, which had been extreme, was relieved in a remarkable manner. The injections had such a good effect that on the third day it was decided advisable to discontinue them. In the course of some hours, however, there was a recurrence of the symptoms, and then injections were resumed. As soon as one large dose was given there was again a striking improvement; but after three or four injections it was decided to diminish the dose, as it seemed doubtful whether the serum was now doing any good. The movements did not increase in number, nor did the blood reappear in the passages, but there was considerable abdominal distress and the temperature rose to 105° F. It seemed probable that secondary infections were present at this time. On the whole, Dr. Herter thought that this was a line of investigation which afforded great promise. He could not assent to the opinion that the fact that we had not succeeded with typhoid serum was any reason why we should not succeed here. Of course, much study and research, as well as extended observation, were still needed before this application of serum therapy could be placed on a thoroughly satisfactory basis.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 2, 1902.

The President, Dr. John M. Fisher, in the Chair.

Fibroma of the Ovary Associated with Ascites.—Dr. Theodore A. Erck, reported the case of a married woman twenty-four years of age who had been married five years and has one child four years of age. About a year or so ago the patient noticed that the menstrual periods were irregular as to the time of their appearance, and the flow scant. In May, 1901, an abdominal enlargement was noticed, and although the menstrual periods were regular, the amount of blood lost had become so small, that she imagined she was pregnant. Examination revealed the abdomen greatly distended with free fluid, though the walls were not tense. A hard nodular mass about the size of a cocoanut occupied the hypogastrium, which by combined examination was found to be freely moveable and not conected with the uterus. Laparotomy was performed. Several gallons of clear straw colored fluid were evacuated from the abdominal cavity, and both ovaries removed. The pathologist pronounced the growth which involved the right ovary as a fibroma; and the opposite ovary sclerotic and cystic. The patient made an uninterrupted recovery. It seemed more likely that the ascites was due to something intrinsic in ovarian growths, perhaps a secretion. Some of the literature of the subject was detailed.

Dr. Richard A. Cleeman said that the specimens which he exhibited loaned from the Mütter Museum were not different in appearance from that shown by Dr. Erck. They were smaller than when removed on account of the contraction caused by the preserving fluid. One represents a tumor of the left ovary and the other, of the right. They were taken after death from a patient, a single woman, a school teacher sixty-five years of age. When about sixty years of age in robust health, she noticed a progressive enlargement of the abdomen, unaccompanied by pain or other symptoms. An examination made some months subsequently revealed several apparently distinct tumors floating above the brim of the pelvis in ascitic fluid. There seemed more than two, owing doubtless to their irregular surface. Vaginal examination showed the whole roof of the pelvis irregular to the touch and of strong hardness. The late Dr. Girvin saw the case in consultation, and agreed from the condition of the pelvic tissues above described and the accompanying ascites that the growths were probably malignant; therefore, no operation was advised. About a year after the above examination she was tapped for the first time, when about 63 pints of fluid were taken away. In the next three years before she succumbed from exhaustion she was tapped about thirty times, altogether 1,483 pints of fluid being removed. The pedicles were found at the autopsy to be very long and at their base or in the situation of the broad ligaments sessile masses were felt, which appeared to be of the same nature as the diseased ovaries; these were not removed. Microscopical examination of the tumor shows it to be a pure fibroma with no suggestion of cancer.

Dr. E. E. Montgomery said he had been greatly interested in the paper of Dr. Erck and the exhibition of specimens made by Dr. Cleeman. His own experience had been similar to that of the writer of the paper and others whom he quotes as to the frequency of ascites in such growths. It is a matter of considerable importance to determine why ascites should be associated with one such growth, and absent from another. It had occurred to him that it may be explained in two ways: first, the pressure of the growth, a solid tumor may be such as to interfere with the venous circulation, while the arterial is unimpaired and in this way serous exudation is a natural result, just as it occurs in a moderate portion of the pedicle of a cyst. The more probable explanation is, that it is due to degenerative processes in the growth itself. In the description of the pathology of this growth, the writer mentions that the vessels were very small, fine and infrequent, showing that the complete nutrition of the growth was probably impaired and the degenerative processes resulting are made evident in the irritation of the peritoneum. It is known how quickly the peritoneum affords serous effusion in cysts whose circulation is impaired by torsion of the pedicle. An ascites is very marked where this torsion has led to the necrosis of the growth. This same explanation is applicable to malignant growths. As the growth increases in size from proliferation of the cells vessels are compressed, the circulation is impaired and serous exudation of the peritoneal cavity results. The case described by Dr. Cleeman illustrates the wisdom of employing buttonhole incision for the relief of large accumulations when associated with abdominal growths in preference to paracentesis. An incision sufficiently large to permit introduction of the finger is not attended with any greater danger than the use of the trocar, and does throw additional light upon the disorder present and enables the operator to determine the possibility of a radical operation.

Dr. F. Hurst Maier said it is still a mooted question why hydro peritoneum exists in many cases of fibromas of the ovary. As Dr. Erck said, not much light has been thrown upon it. It is hard to explain why fibromas of the ovary, equal in size to those of the uterus, analogous in position, and with other conditions absolutely identical, should in the one case give rise to hydroperitoneum, while in the other it does not. He assisted Professor Montgomery in an operation this summer, in which there was an excedingly large fibroma of the ovary. Approximately, its diameters were 12 by 9 or 10 inches. In outline it was irregularly nodulated. One part was infiltrated with blood as if there had been a partial interference with the circulation. A definite twist of the entire pedicle was not present. In this case, the fibroma was of a character in which ascites might be expected, yet there was none. The growth was pedunculated, and in connection there was a smaller fibroma of the uterus.

Dr. John M. Fisher said that the interesting point in connection with the discussion is the fact of Dr. Cleeman's case having fibroma of both ovaries. He did not recall having read of a case of fibroma in both ovaries. Dr. Kelly, in his Operative Gynecology, says that fibromas of the ovaries cause ascites because of their extraordinary mobility, giving rise to irritation of the peritoneum. Since in Dr. Montgomery's case the tumor had a very broad base, probably it was not as movable as these growths usually are. Another question was there a microscopical examination made of the specimen? He judged from its extraordinary size it may have been a fibro-sarcoma. Ascites may occur in connection with pedunculated fibromas of the uterus but rarely when the tumors are sessile.

Hydrops Tubæ Profluens.—Dr. F. Hurst Maier reported two cases of hydrops tubæ profluens, illustrative of the changes found in that condition. The first, a nullipara, had been treated 10 years for a mucopurulent discharge. There was bilateral pelvic pain, aggravated during menstruation, and about two weeks preceding the menstrual period there occurred "gushes" of a tea-colored fluid. Examination disclosed a tense elastic cyst. A diagnosis of hydrops tubæ profluens was made, and subsequently confirmed upon operation. The second patient presented similar features, the tumor disappearing in this case after the periodical "gushes." In discussing the pathology, the writer calls attention to the cause of obstruction in hydrops tubæ profluens, as compared to occlusion and obliterations from inflammatory processes, explaining the mechanism of each. The differential diagnosis, the present status of the condition among gynecologists, and the literature on the subject, are fully considered.

Dr. A. J. Downes said that in December, 1900, he read a paper before this Society entitled Left Lumbar Nephro-Fixation and Abdominal Myomectomy in One Sitting, with Report of Case. In this case the symptoms of hydrops tubæ profluens were present. The clinical symptoms as classically described by Dr. Maier in his paper were all present. The cause in my case was a small fibroid at the right uterine cornua intermittently closing the uterine end of the tube. The illustration accompanying my paper distinctly showed the condition. The specific diagnosis of the tubal condition was not made before operation, but the condition and its cause plainly described after it. He said that the technical name, hydrops tubæ profluens, was at that time not familiar to him, or he would have used it and his case would not have escaped the careful search of Dr. Maier.

Dr. E. E. Montgomery said that the case cited in the paper by Dr. Maier recalls to his mind a patient in whom he saw a considerable sized sac to one side of the uterus, and later when he operated upon the patient without re-examination, he was much discomforted to find the sac had largely disappeared. Investigation, however, showed a rather relaxed or distended tube on the corresponding side. The interrogation of the patient subsequently revealed that there had been a profuse discharge from the vagina, which had undoubtedly been the channel through which the tumor had disappeared. It illustrates how readily one physician might examine a patient and advise operation, when later, after a discharge of this kind, examination by another physician would fail to discover any growth, when the second physician, if he did not keep in mind the possibility of these growths filling and emptying, might assert that the previous examiner was either ignorant or a knave.

Dr. Maier in closing said he did not think that profluent hydrosalpinx is quite so rare a condition as one would infer from the small number of cases found in the literature. Many cases are undoubtedly overlooked by the failure of the physician to make repeated examinations. In one of his cases, he was sure he would have failed to notice this feature if the patient had consented to early operation. As it was, he had the opportunity to observe the alternate appearance and disappearance of the tumor throughout the better part of a year. In reply to Dr. Cleeman's question, it has been found that the tubes at times fail to refill; and changes in the structure follow, which bring about a clinical cure. An illustration of this is found in the case quoted by Dr. Montgomery.

Temperature in the Diagnosis of Extra-uterine Pregnancy During the Period of Collapse from Hemorrhage.—Dr. Charles P. Noble said the following case is of special interest because of a doubtful diagnosis, and is reported to elicit discussion upon the point as to the value to be attached to a rise of temperature in a patient in collapse in deciding for or against a diagnosis of extra-uterine pregnancy with rupture. After reaction from collapse or faintness due to hemorrhage from ectopic pregnancy a rise of temperature is quite common, and is due to plastic peritonitis, which is a part of the process of walling off the blood clots from the general peritoneal cavity. With a history suggestive of ectopic pregnancy and a mass in Douglas' pouch, the presence or absence of a rise in temperature would not at all throw doubt upon a diagnosis of ectopic pregnancy with rupture. On the other hand, in all cases coming under observation, in which the patient was seen during primary collapse from hemorrhage, there was a subnormal temperature. This fact caused a question as to the diagnosis of the following case:

Mrs. R., aged thirty-four years, has had two children and one miscarriage. She menstruated regularly and normally March 21, 1902. She missed the April period. A pelvic examination made about the middle of May by Dr. William E. Parke led him to think that uterine pregnancy existed. At that time there were no lateral masses felt. May 25, about noon, after active exertion, the patient was seized with severe epigastric pain, faintness and vomiting. The pain and faintness continued throughout the day. A neighboring physician who was called in made a diagnosis of acute indigestion, and prescribed an anodyne. Dr. Parke saw her at 11.30 P.M. She was then pale with a pulse of 120, the skin cool, the mind clear and the abdomen distended, with tense abdominal walls. The vaginal examination was unsatisfactory, but no lateral masses were made out. Dr. Noble saw the patient in consultation about 1 A. M., when the condition was as described. The pelvic examination disclosed nothing abnormal, but was unsatisfactory because the patient was stout and the abdomen so distended that bimanual palpation was impracticable. The absence of menstruation, the appearance of the patient, the condition of the pulse and the persistence of faintness, were suggestive of hemorrhage from extra-uterine pregnancy. On the other hand, no clots or fulness could be felt in Douglas' pouch, the pain had been epigastric in location, and the vaginal temperature was 100° F. Hypodermic stimulation and hypodermoclysis were advised to promote reaction, and it was felt that if reaction were not prompt, a diagnosis of hemorrhage would be rendered more certain. The patient was left with the understanding that if reaction was not prompt and satisfactory, she was to be transferred to the Kensington Hospital for Women for operation. This was done the following morning, when the abdomen was promptly opened and found full of fluid and clotted blood due to ectopic pregnancy. The patient was so prostrated for some days that the outcome was in doubt, but she made a good recovery. The case is reported as showing that a rise of temperature a few hours after the onset of symptoms of hemorrhage from ectopic pregnancy does not exclude a diagnosis of collapse from hemorrhage.

Bilateral Tuberculous Salpingitis.—Dr. E. E. Montgomery said that the case recounted by Dr. Noble lead him to feel that one which recently came under his own observation presents sufficient interest from a diagnostic standpoint to be worthy of consideration. She was a young woman, twenty years of age, employed in a department store, where she received the munificent salary of four dollars a week, upon which to support her mother and several sisters. She had not menstruated for two years. She had recently been taken with a severe attack, attended with considerable pain, and was sent to the Pennsylvania Hospital, where operation was advised. To this, however, she would not consent, and returned to her home, when he was asked to see her. He found a mass upon the left side, extending nearly to the umbilicus, which was very sharply defined. A second mass could be felt on the right side in front, but lower down in the pelvis. An attempt was made to explore the vagina, but its orifice was found guarded by an unruptured hymen. The age of the patient, the manner of life, the absence of menstruation for two years, and her general appearance, made him believe that he had to deal with a case of tuberculous disease of the tubes, and he advised immediate operation. She was sent to St. Joseph's Hospital. As soon as the abdomen was opened, there was evident free blood in the peritoneal cavity. He turned out the mass on the left side, which was the size of a large sweet potato, five inches in length, two inches in diameter, involved the tube and ovary, and was imbedded in a mass of clotted blood. His first view of this almost made him feel that there had been a rupture of an ectopic gestation. Upon examination, however, he found the pedicle was twisted, immediately in contact with the uterus, thus cutting off the blood supply, which had undoubtedly at first been gradual, so that the tumor had been filled with blood which could not return to the veins. The other tube was equal in size but was free from blood, excepting one small clot on its inner margin. Both tubes were subsequently found to contain pus, that on the left was mixed with blood. The right was clear pus. Examination failed to reveal the presence of tubercle bacillus. He is inclined from her history, however, to attribute the cause to tuberculosis. The twisting of the pedicle was undoubtedly the cause of the hemorrhage. He had seen cases similar to the one recounted by Dr. Noble, in which there is an elevation of the temperature during the primary collapse immediately following hemorrhage. It occurred to him if Dr. Noble believed this case to be one of hemorrhage and collapse from it, that a hypodermoclysis and stimulation of the heart by hypodermic injections of strychnine would not be proper treatment. He would feel it was wise to elevate the part from which the hemorrhage was occurring, and apply cold, and not endeaver to increase the heart action, so that clotting might be encouraged to take place in the bleeding vessel.

Dr. Maier said he had seen Dr. Montgomery's specimens, and the one with the twisted pedicle was certainly the oddest pyosalpinx that he had ever seen. The blood had infiltrated the walls of the tube, the mesosalpinx, and the ovary, enlarging them to three times their natural size. In color they were as black as coal.

Dr. J. M. Fisher said the point that Dr. Noble pointed out in connection with the want of any mass in the pelvis recalls to his mind a young negress brought to the Philadelphia Hospital, giving the characteristic history of a ruptured tubal pregnancy 10 or 12 days previously. There was no doubt but that she had had a tubal pregnancy, and that tubal abortion or rupture had taken place, but nothing could be felt in the pelvis indicating the presence of blood-clot and the uterus was freely movable. The abdomen was opened, and it was found that while there was no blood en masse every portion of the visceral peritoneum was more or less covered by a black tarry material, representing the residue of corpuscular blood elements due to the distribution of the blood by the capillary planes of the intestines.

Reception to Drs. Keen and Wood.—Dr. W. W. Keen and H. C. Wood of Philadelphia were tendered a complimentary dinner last Thursday commemorative of their return from their travels.

BOOK REVIEWS.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VII. Materia Medica and Therapeutics; Preventive Medicine; Climatology; Forensic Medicine. Edited by George F. Butler, Ph.G., M.D., Henry B. Favill, A.B., M.D., Norman Bridge, A.M., M.D., Harold N. Moyer, M.D., June, 1902. The Year Book Publishers, Chicago.

The present volume of this series is quite up to the usual satisfactory standard of these manuals. Of this issue 145 pages are devoted to therapeutics and contain some very practical material gathered from many quarters. In fact, there are so many suggestions for treatment that it must be a little difficult for the practitioner to select just what he shall decide upon, and the consequence is apt to be some embarrassment. The chapter on climatology is devoted mainly to the consideration of the relation of climate to tuberculosis, but here once more there is a lack of digestion of the material, with many conflicting claims, so that the practitioner must find it hard to conclude just where to send his patients. The notes on forensic medicine are abstracts of rather specialized papers of interest mainly to coroners' physicians and medicolegal experts.

The Operations of Surgery. Intended Especially for the Use of those Recently Appointed on a Hospital Staff and for Those Preparing for the Higher Examinations. By W. H. A. Jacobson, M. Ch. Oxon., F.R.C.S., Surgeon Guy's Hospital, and F. J. Steward, M.S., London, F.R.C.S., Assistant Surgeon Guy's Hospital and the Hospital for Sick Children, Great Ormond St. Surgeon in charge of the Throat Department, Guy's Hospital. Fourth Edition. Vols. I and II. P. Blakiston's Son & Co., Philadelphia.

The author tells us that this book, of which the first edition appeared nearly 15 years ago, was the outcome of the belief that a work in operative surgery which aimed at being more comprehensive in scope and fuller in detail than those already published would be of service to many who had recently received hospital appointments and to those who were working for the higher examinations. That he was correct in his view and successful in his attempt to fulfill these requirements is attested by the popularity the work speedily attained with the postgraduate students of his own country; and even a glance through the pages of the present edition shows that it still maintains its advanced position relative to other works on the same subject.

It illustrates most admirably one of the characteristics usually prominent in the productions of the Old World, and unfortunately found but faintly present in the average American medical work. This is the personal note which brings to the reader instant realization of the force and mentality of the writer, and while possibly a colorless statement of fact and syllogism may be more in accord with the dictates of pure science, still the graphic style, the wealth of apposite reminiscence, and the trenchant vividness of expression of such a book as the present add greatly to the reader's enjoyment and compel admiration for the vigorous personality whose presence is felt behind the written pages.

The general scope of the work is to some extent indicated by the title. Its object is to present the operations of surgery in a manner so complete as to leave no essential detail to the ingenuity of the tyro, and in cases where judgment as to the choice or extent of operation is required, to supply the beginner with the counsel and knowledge which his inexperience lacks. Every page bears the imprint of the ripe wisdom matured during many years of practical work, and rounded out by diligent study of the views and results of others. Few works published, so adequately present the literature of the subject, and while no important articles are overlooked, it is gratifying to the American reader to find that references to the work done in this country are unusually abundant and, in fact, quite overshadow the citations from continental authors. The section on appendicitis, perhaps, illustrates this better than any other, and represents what is practically the teaching of the American authorities of to-day. Very different from the older expectant therapy of the British surgeons is this dictum: "I consider that any physician is justified in asking a surgeon who is skilled in abdominal surgery and who has the necessary aids, etc., to remove the appendix as soon as the diagnosis is made." Again, "I hold very strongly that every physician is not only justified in asking, but bound to ask, a surgeon skilled in this branch of surgery to interfere at the earliest possible moment in certain cases; viz., where the evidence of appendicitis is from the first severe and progressive." Of the diagnostic points greatest importance is attached to marked pain, tenderness and vomiting. The temperature and pulse are next in value, but the possibility of a falling temperature and impending perforation is pointed out. No mention, however, is made under this heading of the significance of leucocytosis.

The section on intestinal anastomosis is another one of great interest and completeness. All of the modern appliances used in facilitating this work are figured and described. The use of the Murphy button is highly commended as being expeditious and not requiring unusual skill, while the objections that have been urged against it are shown not to have great weight if care be exercised in adjusting a button of *proper size* in a well-nourished intestine. However, of Mayo Robson's decalcified bone-bobbin the author says: "This method appears to me likely, for the present at all events, to replace all the other special apparatus which have been invented to aid in the resection or anastomosis of the stomach and intestines."

All the newer operations are mentioned, such as the modern brain surgery, operations on the lung, suture of the heart, spinal cocainization, oophorectomy for cancer of the breast, and sympathectomy for exophthalmic goiter, of which both the latter are deprecated as not having fulfilled the expectations of their originators.

Sections that are especially full of practical points for the beginner are those on the ligation of vessels, which are illustrated and described with unusual thoroughness.

To advert now to some omissions which the general completeness of the work makes all the more inexplicable, it seems strange that in a book intended especially for beginners, while much space is given to hysterectomy, salpingectomy and ovariotomy, and simple and efficient method of perineorrhaphy is described, no mention is made of either trachelorrhaphy, Alexander's operation, ventral suspension or curettage. Again, under varicose veins but a single operation is given, that of excision, which, though admittedly the best, is not always feasible. Ingrowing toe-nail is so common an affection that the young surgeon might be grateful for the results of the author's experience with such cases, but the subject is not touched upon.

The illustrations are well above the average in an English work, but are not as numerous as the subject requires, and in point of execution leave much to be desired. The index also is not complete enough to satisfy the demands of a book of reference.

With these few exceptions the work deserves in the highest degree the admiration of the reader; and the rational and logical discussion of all the contingencies likely to arise, the decisions to be made in operative work, together with the completeness of presentation of the subject, render it a work that would be useful to any surgeon young or old.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE PURIN BODIES OF FOODSTUFFS. By Dr. I. Walker Hall. 8vo, 108 pages. Sherratt & Hughes, Manchester.

UEBER DAS PATHOLOGISCHE BEI NIETZSCHE. Von Dr. P. J. Möbius. 8vo, 106 pages. J. F. Bergmann, Wiesbaden.

NOSE AND THROAT IN MEDICAL HISTORY. By Jonathan Wright, M.D. 8vo, 244 pages. The Laryngoscope, St. Louis.

THE MATTISON METHOD IN MORPHINISM. By Dr. J. B. Mattison. E. B. Treat & Co., demi 8vo, 40 pages. New York.

CLINICAL METHODS. By Drs. R. Hutchison and H. Rainy. 12mo, 612 pages. Illustrated. W. T. Keener & Co., Chicago.

DISEASES OF INFANCY AND CHILDHOOD. By Henry Koplik, M.D. 8vo, 675 pages. Lea Brothers & Co., Philadelphia and New York.

THE DISEASES OF INFANCY AND CHILDHOOD. By Dr. L. Emmett Holt. Second Edition. 8vo, 1161 pages. Illustrated. D. Appleton & Co., New York.

PRACTICAL OBSTETRICS. By Edward Reynolds, M.D., and Franklin S. Newell, M.D. 8vo, 552 pages. Lea Brothers & Co., Philadelphia and New York.

THE TREATMENT OF TABETIC ATAXIA. By Dr. H. S. Fraenkel. Translated by L. Freyberger. 8vo, 185 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A TEXT-BOOK OF ANATOMY BY AMERICAN AUTHORS. Edited by Dr. F. H. Gerrish. 8vo, 944 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

A GUIDE TO THE PRACTICAL EXAMINATION OF THE URINE. By Dr. James Tyson, 10th Edition, demi 8vo, 297 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

PROGRESSIVE MEDICINE, SEPTEMBER, 1902. Edited by Hobart Amory Hare, M.D., and H. R. M. Landis, M.D. 8vo, 431 pages. Lea Brothers & Co., Philadelphia and New York.

A MANUAL OF SURGERY FOR STUDENTS AND PRACTITIONERS. By Dr. W. Rose and A. Carless. Fifth Edition. 8vo, 1213 pages. Illustrated. William Wood & Co., New York.

MATERIA MEDICA, THERAPEUTICS, MEDICAL PHARMACY, PRESCRIPTION-WRITING, ETC. By William Schleif, Ph.G., M.D. 12mo, 389 pages. Lea Brothers & Co., Philadelphia and New York.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Vol. X. Skin and Venereal Diseases, Nervous and Mental Diseases. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. 12mo, 245 pages. The Year-Book Publishers, Chicago.

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ORIGINAL ARTICLES.

CLIMATOLOGY OF CALIFORNIA.[*]

BY ALEXANDER MCADIE,
OF SAN FRANCISCO;
PROFESSOR OF METEOROLOGY, UNITED STATES WEATHER BUREAU.

WHEN passing Cerigo, the traveler in Mediterranean waters wonders if that can really be the far-famed Cythera where Venus rose resplendent from the sea. A sun-baked, wind-worn rock meets his view and the obvious conclusion is that either great natural changes have taken place there since the poets sang, or else these ancient writers held not closely to the truth. How frequently is the traveler disappointed because imaginative writers have all too glowingly described some locality! And possibly this holds somewhat in descriptions of California. On the other hand, a bald statement of fact and a table of physical data tell the story of a place very inadequately. Particularly is this likely to be the case where meteorological data are given. The writer has in mind the islands lying in the Pacific about 25 miles due west of San Francisco. If tables of mean temperature, daily range or annual range of temperature, extreme temperatures, etc., be considered only, the Farallones will compare favorably with any portion of California. Yet few of us are willing to dwell upon the islands. If then we are to keep meteorological records, by all means let these be as complete and detailed as possible. Dr. Hann has given the following list of climatic factors which should be embodied in the discussion of the climatology of a locality. And it need only be said that full as this list seems to be it but partly tells the story of the climatology of any place. The different factors are:

1. The monthly and annual mean temperature.
2. The mean diurnal range for each month.
3. The mean temperature at two given hours.
4. The extreme limits of the temperature of the months.
5. The monthly and annual extreme temperatures.
6. The absolute highest and lowest temperatures.
7. The mean variability.
8. Frost data.
9. Insolation or solar radiation.
10. Terrestrial radiation.
11. Soil temperatures.
12. Absolute humidity.
13. Relative humidity.
14. Total precipitation: rain, snow, fog.
15. Maximum precipitation per day and hour.
16. Number of rainy days.
17. Percentage and probability of rainy days.
18. Snow: depth, duration, number of days covering ground.
19. Dates of first and last snow.
20. Hail-storm frequency.
21. Thunder-storm data.
22. Cloudiness.
23. Fogginess.
24. Nights with dew.
25. Air movement or wind velocity.
26. Frequency of wind direction.
27. Pressure data.
28. Evaporation data.
29. Impurities: number of dust particles, bacteria, etc.
30. Electrical potentials.

To this long list Professor Abbe (Maryland Weather Service, page 266) adds:

31. Sensations experienced; *e.g.* mild, balmy, invigorating or depressing, expressing the integrated effect of the various factors upon the human body.
32. The number of storm-centers passing over the locality; *i.e.* briefly, its storm frequency.
33. Frequency of severe local storms.
34. Duration of twilight.
35. Blueness or haziness of the sky.
36. Frequency and degree of sudden changes from warm to cold, or moist to dry.

This makes a formidable list; and in California some of these factors are of but little consequence. Others, such as the distinctive features of fog, air drainage, character of soil, and topographical barriers to air movement, are of the utmost importance.

From the health-seeker's standpoint honest, unvarnished descriptions of the northers of the great valleys, the Santa Anas of the south, the trying west winds of the Bay section, are essential.

In discussing the Climatology of California two broad propositions appear: (1) Air Motion, and (2) Air Purity. To these all that can be determined concerning the amount and behavior of the water vapor should be added; for when all is said and done it is this factor, this most Protean of the elements, which determines our comfort. It exists independently of the air, and we know it as rain, snow, hail, frost, dew, fog or cloud, from the lowest stratus to the highest cirrus. If we live below it, as we too frequently do, it will determine the range of temperature, the frequency of change, or the equability; the amount of sunshine, for it is the veil between us and the sun; the cloudiness, the rainfall, and even the relative purity of the atmosphere. Our atmosphere is composed of oxygen, nitrogen, carbondioxide, argon, krypton, helium, neon, xenon and vapor of water. But first and foremost in determining climate is water vapor.

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[*] Read before the meeting of the American Climatological Association, Coronado, Cal., June 10, 1902, by Dr. W. F. R. Phillips, and published by permission of the Chief of the Weather Bureau.

California faces the ocean. Small wonder then that along the coast, and wherever there is an open thoroughfare for the winds from the sea, the temperatures are nearly constant. The coastline of nearly 1,000 miles shows a difference of but 5° C. or 9° F. in the mean annual temperatures of its northern and southern limits. At Eureka the temperature is 11° C. (52° F.); at San Francisco 13° C. (56° F.) and at San Diego 16° C. (61° F.). If we compare these figures with those of three points on the Atlantic seaboard practically corresponding in latitude, we find that New York has a mean temperature of 11° C. (52° F.); Washington, 13° C. (55° F.); and Savannah 19° C. (67° F.). In tabular form the difference between the two seaboards may be shown as follows:

Pacific Coast	11°—16°C.=5°C. 52°—61°F.=9°F.	or 1°F. variation for every 80 miles.
Atlantic Coast	11°—19°C.=8°C. 52°—67°F.=15°F.	or 1°F. variation for every 53 miles.

But as we intimated above, mean temperatures do not tell the whole story. To test the relative equability of temperature compare these figures:

	EUREKA		SAN FRANCISCO		SAN DIEGO	
January	8° C.	47° F.	10° C.	50° F.	12° C.	54° F.
July	13° C.	56° F.	15° C.	59° F.	19° C.	67° F.
Range	5° C.	9° F.	5° C.	9° F.	7° C.	13° F.

	NEW YORK		WASHINGTON		SAVANNAH	
January	-1° C.	31° F.	1° C.	34° F.	11° C.	52° F.
July	23° C.	74° F.	25° C.	77° F.	28° C.	82° F.
Range	24° C.	43° F.	24° C.	43° F.	17° C.	30° F.

Here there is a marked difference, and if the physician desires for the patient a climate not subject to large temperature variations, eliminating, as it were, the extremes of summer and winter, the Pacific seaboard offers decided advantages.

In January, as you go south on the Atlantic side, it grows one degree warmer for every 40 miles. On the Pacific side as you go south in January it grows one degree warmer for each 115 miles. Decided changes in temperature, however, can be obtained by traveling a few miles either east or west, and also, owing to the peculiar topography of the State and the marked changes in elevation, can be found at many points within a journey of an hour or two. Before we leave the matter of monthly mean temperatures reference should be made to the isotherms of January, as compared with those of July. The same general north-and-south trend of the isotherms may be noticed; but during July high temperatures are experienced generally throughout the State in summer months, except along the coast. In brief, isothermal maps show that the so-called winter months in California are the really pleasant months of the year. Note that the isotherm of 40° in January extends well over the central and northern portion of the State, while in July the isotherm of 80° traverses the northern as well as the southern portion of the State. During the summer months one has only to move inland from the coast a distance of less than 100 miles to experience temperatures 30° or 40° higher than the coast temperatures.

Even more remarkable than the temperature distribution is the rainfall of California. In no other portions of the United States are the rainfall periods so differentiated. There are two well-marked seasons, the dry and the wet. The former covering the months of May, June, July, August and September; and the latter the rest of the year. The mean annual rainfalls vary from one to 75 inches. There are places in the southeastern portion of the State where the total rainfall for a period of 25 years will hardly amount to two inches, and not infrequently a year will pass at these points without an amount of rain exceeding 0.01 of inch. In the northern portion of the State the rainfall is very heavy. In some of the northern coast counties, and also in the mountains to the east and southeast of Shasta, rainfalls averaging over 80 inches in a year have been recorded. In years of very heavy rainfall at some of these points more than 100 inches have fallen. The following are some single-year rainfalls: La Porte, 120 inches, 1896, 101 inches, 1898; Delta, 111 inches, 1889; Upper Mattole, 102 inches, 1896. In the central and northern portions of the State, and in the mountains of the south, snow is not infrequent. At Summit an annual snowfall of 697 inches has been recorded.

Little rainfall then is expected during the summer months, but if the rainfall is deficient during the wet season the various interests of the State suffer materially. And this question of whether the rainfall during a given season will be deficient is probably the most important one with which the climatologist has to deal.

An interesting illustration of this variation in the seasonal rainfall is given by the isohyetals for January and February, 1902. The month of December, 1901, had been exceptionally dry. The month of January continuing dry, the outlook was disheartening, and while the invalid might enjoy life out of doors, the business man and the farmer were worrying themselves sick. The excessive rainfall for February, 1902, saved the entire community from great losses and, as if by magic restored confidence and courage.

Another point plainly brought out by these rainfall maps is the variability both of the rain intensity and the rain frequency. During the month of January, ordinarily the month of greatest rain frequency in California, there were but 13 rainy days, while in the next month rain fell on practically every day. The number of rainy days is probably the factor most frequently asked for by physicians in determining the climatic character of a place, a rainy day being defined as one on which 0.01 of an inch of rain or more falls. And yet there are few conditions more misleading in helping us to form a true estimate of the climatology of a place than the so-called number of rainy days. There should always be furnished in addition to the number of rainy days some statement as to the general character of the precipitation itself; for example, whether the rain falls in showers with intermittent sunshine, or whether the rains are continuous and the sky is overcast.

The wind system of California is, like the rainfall and the temperature, characteristically different from the wind systems of other portions of the United States. Here again the topography plays an important part in modifying the circulation of the lower strata of the atmosphere. In the coast and bay section there is a well-marked draft through the Golden Gate and into the great valley. Particularly noticeable is this motion on summer afternoons, and many of the fog phenomena so remarkable on this coast may be explained in connection with these strong westerly winds. There is also a well-marked movement of the air from the north, thermodynamically warmed in the summer months by its passage over the mountains, and giving rise to the very disagreeable "northers" of the great valley and the "Santa Anas" of the south.

With regard to sunshine, except along the immediate coast, few portions of the United States can equal California. Over more than half of the State the normal annual sunshine exceeds 75 per cent. of the possible sunshine. Along the coast this is reduced to 50 per cent.

Both in the matter of air motion and in that of air purity California enjoys great advantages.

To sum up the general climatic factors of this land of sunshine and of fog, of heavy rainfall and of scant rainfall, this land of contrast—California—we note first that because of its proximity to the ocean, which is a great natural conservator of heat, the temperatures are as a rule moderate and equable. Secondly that because of the exceedingly diversified topography the climatic conditions are likewise much diversified; thirdly, that the prevailing easterly drift of the air in our latitudes brings a constant supply of fresh air, neither too hot nor too cold, to most of the State, and fourthly, that owing to the general path of storm movements lying farther to the north, California escapes many of the disturbances so familiar elsewhere. All these combine to give a climate different from other sections of our great country. The effect of the climatic environment is well shown in the flora of the State. What influence the climate will exert on man, and what the ultimate record will be, is for other pens than ours.

THE CLIMATE OF THE EASTERN FOOTHILLS OF SOUTHERN CALIFORNIA.

BY C. A. SANBORN, M.D.,
OF REDLANDS, CALIFORNIA.

Just where the dividing line between the Eastern and Western foothills may be, I know not. We will, however, draw an imaginary line, beginning at the mouth of Cajohn Pass and encircling the East San Bernardino valley, taking in Riverside, just across the divide, the city of San Bernardino, Highlands, Redlands and Colton, to the mouth of San Timateo Cañon. Extending this line east we reach Beaumont, Banning, Palm Springs, and Indio. Except for the coast climate, we have every variety, from that on the desert, below sea-level, to any altitude up to 10,000 feet.

When I asked one whom we consider authority on climate what he thought of Southern California, he answered: "What has been said of Florida is true of Southern California." This notion is erroneous and seems to me to be too prevalent.

On May 1 a physician in San Francisco wrote to me to know if his patient could longer endure the heat of the South, and whether he had not better request him to return home! A physician in Pittsburg thinks a longer stay for his patient "will undo all the good which the winter months have brought about."

The fact is that there are in this section few days during the whole year too warm to enjoy and thrive in. It is said there are 320 days of sunshine in the year, the other 45 days covering all weather disagreeable from rain, wind and heat. We do not mention cold, for while it is cool and bracing through the winter months, the thermometer seldom goes below 32° F. During my 15 years' residence and experience in orange-growing in Redlands I have never found frozen fruit in my orchard, although ice often forms to the thickness of a third of an inch. This is probably due to the currents of air, and to the fact that the cold is of short duration in the early morning, the coldest time being just before sunrise.

What I may say of Redlands, which I choose as the center of the region to which I desire to call attention, is in a measure true of all the towns in this end of the valley, climatic conditions varying somewhat with altitude and exposure. The average altitude of Redlands is 1,200 feet, the valley at this point being about six miles wide. On the north, standing like giant sentinels, and at present snow-capped, are the peaks of the San Bernardino Range, having altitudes of from 3,000 to 11,500 feet, the ventilation being through cañons opening upon the Mojave and Colorado deserts. These mountains form three-quarters of a circle, the range on the north extending to the sea, that on the south breaking into irregular and isolated low peaks which trend, towards the south, to Riverside and beyond, while on the other side of this gap low peaks form an uninterrupted chain towards the sea. Between the high mountains on the north and the low ones on the south come, during the summer, our trade-winds, rushing into the vacuum caused by the intense heat on the desert during the day, returning over mountains which are sufficiently high to cool the air during the nights. Thus the majority of days are rendered cool during the summer months, and the nights almost invariably so.

For the past three years the average temperature of the four months exhibiting the greatest extremes of heat and cold is given as follows:

JANUARY.

Mean maximum temperature, 62° F.; mean minimum temperature, 40°; relative mean humidity, 55 per cent.

FEBRUARY.

Mean maximum temperature, about 69° F.; mean minimum temperature, 42°; relative mean humidity, 60 per cent.

JULY.

Mean maximum temperature, about 95° F.; mean minimum temperature, 58°; relative mean humidity, 55 per cent.

AUGUST.

Mean maximum temperature, about 91° F.; mean minimum temperature, 58°; relative mean humidity, 55 per cent.

I dare say many of you are expecting me to recommend this climate of the Eastern foothills as one especially adapted for tuberculous troubles. Patients with pulmonary lesion, not far advanced, do well in this climate—especially in that part of the valley where orange-growing and the consequent dampness from irrigation do not prevail. Just here I should mention the irritation to the respiratory tract brought about by the extensive use of commercial fertilizers. A prevalence of tonsillitis and pharyngitis among old and young has been quite noticeable, occurring at the time of the spreading of this necessary adjunct to the production of our citrus fruits.

Physicians must not expect that climate and climate alone can bring back health to patients having tubercular lesions. An out-of door life, however, in this nearly perfect climate may in some instances revolutionize a patient's physical condition. Besides climate there must be conditions to promote contentment. Some slight occupation should be taken up as soon as strength permits. The patient with means has the advantage over one who is less well supplied with this world's goods, as he can have the supervision of an orange-ranch, or some equally pleasant and profitable occupation. I cannot emphasize too strongly the necessity for contentment of mind for the health-seeker, and this cannot be assured without employment.

I am often asked what causes the nervous troubles which are apt to prevail in Southern California. There are many factors entering into the causation of the increasing tendency of both sexes toward nervousness. North winds and altitude are not alone responsible for these conditions. Continued eye-strain, from a succession of bright days without proper protection for the eyes, causing headaches, predisposes not only invalids but also healthy persons to nerve-exhaustion. But nostalgia is probably the most important factor. However much the sun's rays may irritate the eyes and burn the skin, they do not relax the nervous system so much as does the sultry summer atmosphere of the East.

It is not my purpose to defend our climate, or to apologize for its few drawbacks. All things considered, we have here in these Eastern foothills as nearly perfect a climate as can be found anywhere.

As Southern California grows conditions for recreation and contentment multiply, and it is my firm belief that in the near future nervous troubles will be less and less prevalent.

With such a climate, and with the class of people who are coming here to make their homes, we ought to produce the ideal race, mentally, morally and physically.

Every detail for the best physical and mental development of the child should be carefully looked after. There should be proper food, proper clothing, and a school year regulated with some regard to climatic conditions. As the child is father of the man, our children, offspring as many of them are of semi-invalid parents, should be carefully nurtured and all hygienic measures for them carefully pursued.

THE CLIMATE OF MAINE.*

BY GUY HINSDALE, M.D.,
OF PHILADELPHIA;
SECRETARY OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION; CORRESPONDING FELLOW OF THE BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

THE State of Maine is the largest and, from a climatic standpoint, the most interesting State in New England. The single county of Aroostook is larger than the State of Connecticut and but slightly smaller than Massachusetts. Vast areas of Maine are wild and uninhabited. In the interior there are 1,700 beautiful lakes, many of them at an elevation of more than 1,000 feet.

	Feet above sea-level.
Rangeley	1,513
Mooselucmaguntic	1,486
Richardson	1,456
Umbagog	1,256
Long Pond	1,094
Attean	1,094
Wood	1,094
Moosehead	1,023

The Penobscot, Kennebec, Piscataqua, Allagash and St. John Rivers, rising in the mountains of Maine, penetrate the State in all directions. Katahdin is the highest mountain, attaining a height of 5,385 feet.

Maine abounds in spruce, hemlock and white pine; and the lumber interests have been a great source of wealth. The soil is sandy. The coast is noteworthy for its innumerable indentations, with harbors protected by headlands and outlying islands, so that it is admirably adapted for maritime pursuits. The shore-line, if extended in one direction, would stretch for 3,000 miles. The coast is rocky and picturesque. The bays are deep and afford safe anchorage. The islands off the coast are especially noteworthy. Among them, beginning with Campobello and Grand Manan, which are British possessions, although almost within our territory, may be named

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* Read before the Section on General Medicine, New York Academy of Medicine, being a part of a symposium on Summer Climates and Climatotherapy.

Mount Desert, Deer Isle, Isleboro, Isle au Haut, Vinal Haven and North Vinal Haven, Monhegan, Squirrel Island, and the islands of Casco Bay.

The harbors of note are Passamaquoddy Bay, Machias Bay, Frenchman's Bay, Penobscot Bay, Booth Bay, Portland Harbor and Casco Bay, including the waters between Portland and Harpswell; Biddeford, Cape Porpoise, York Harbor and Kittery.

Climate.—The climate of Maine is cold and stimulating, and is noted for its severity. On the coast the diurnal range of temperature is small, and the annual range is from 98° F. at Belfast to 109° F. at Portland. The maxima are 94° F. at Bar Harbor; 90° F. at Belfast; Eastport, 88° F.; Gardiner, 97° F.; Portland, 97° F. The minima are: Bar Harbor, 10° F.; Eastport, 12° F.; Portland, 12° F.; Gardiner, 13° F. The mean daily range is from 15 to 17° F.

The cold in winter is penetrating. In the summer there is a corresponding advantage, in that the prevailing breezes are always cool; and, as the shore-line is so nearly easterly, the southerly and southwesterly breezes come from the water. The sea-breeze is an interesting feature of the coast, and on it depends much of the pleasure of summer life. It usually begins at about 9 or 10 A.M., and lasts until 4 or 5 o'clock P.M. It lowers the temperature as it penetrates the interior. It is more distinct on warm, clear, quiet days, and is absent on cool, cloudy and rainy days, and on days with strong winds in any direction. The rate of the sea-breeze is from 10 to 15 miles an hour, and it produces a very agreeable depression of temperature on the coast; but this depression is not carried inland as far as its wind extends.

The mean minimum and the mean maximum temperature for July and August are given in the following table for nine stations in Maine. Gardiner and Lewiston are about thirty miles inland; Orono and Fairfield are 40 miles inland, and the other stations are on the coast.

Temperature F.

	Mean Minimum.		Mean Maximum.		Annual
	July	Aug.	July	Aug.	
Eastport	54	54.4	67.4	66.3	41.3
Calais	56.5	55.	75.2	74.3	
Bar Harbor	56.3	55.3	74.	73.	
Sorrento	54.5	53.5	72.8	72.2	
Lewiston	60.7	56.3	75.7	74.7	
Gardiner	59.5		75.6		43.8
Portland	59.6	57.	73.1	72.2	
Fairfield	54.4	51.4	78.1	75.2	
Orono	58.2	55.8	74.	74.6	42.1

The mean summer temperature for the northern third of the State is precisely the same as for the southern two-thirds; namely, 62.19° F.

The yearly movement of wind is the same as that of New Haven, Conn., and a trifle less than at New York—or about 72,000 miles a year. It is about 25 per cent. less than at Boston and Nantucket, and about half that of Block Island. The annual precipitation averages 49.69 inches at Eastport, 45 inches at Gardiner, 41 inches at Portland. The mean summer rainfall of the State is 11.13 inches.

There is considerable difference in the precipitation of moisture between the northern and southern slopes—the mean annual fall on the former being 36.71 inches and on the latter 43.56 inches.

Pulmonary Tuberculosis in Maine.—There has been a noteworthy and uninterrupted diminution of the number of deaths from pulmonary tuberculosis in Maine during the last 10 years. The annual number of deaths from this disease has fallen in that time from 1,352 to 1,015. This is a decrease of from 20.24 to 14.69 per 10,000 of population.*

In 1899 consumption had fallen from second place in 1897 to fourth place on the list of fatal diseases, being exceeded by Brain disease, Pneumonia, and Heart disease. Consumption death-rate per 10,000:

Maritime Counties.		Interior Counties.	
Washington	18.82	Aroostook	13.75
Hancock	15.84	Penobscot	14.62
Waldo	20.37	Kennebec	14.94
Knox	12.13	Piscataquis	11.86
Lincoln	15.07	Somerset	13.64
Sagadahoc	8.89	Franklin	15.30
Cumberland	16.55	Oxford	11.82
York	13.45	Androscoggin	13.22
Average	15.14	Average	13.64

An analysis of the deaths from pneumonia shows that the mortality from this disease averages precisely the same in the interior counties is in the maritime counties. Aroostook and Washington counties have the least, while Somerset and Cumberland counties have the most. Infantile diarrhea is more common in the interior counties than on the seaboard.

The interior counties of Maine are interesting to us chiefly for the wonderful opportunities for camping and hunting expeditions. Aroostook County affords these to perfection, and may be visited from the time the ice goes out of the lakes until December 15, when the hunting season is over. Toward the end of May notice is sent to the Associated Press that the ice has left Moosehead Lake. One day the lake is covered with porous ice; the next, a strong wind may start the break-up, and in a few hours the lake is clear and the season for trout-fishing opens. Up to about the middle of June the fish take live bait or worms; after that, the fly. In July the brook-fishing affords better sport. There are also some landlocked salmon in Moosehead Lake, and in the Moose and Kennebec rivers. Sea-salmon run up the Penobscot and from its east branch up the Wissataquoik, around the north spur of Katahdin. In Northern Maine salmon come up the Aroostook River from the St. John. They are more difficult to take than landlocked salmon.

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* This is attributed to the fact that the people "are understanding more and more clearly the significance of the fact that consumption is a preventable disease and should be prevented." A circular on the prevention of consumption has been widely circulated in Maine for the past ten years and is a part of a campaign of education for the prevention of disease.

Some idea of the magnitude of Maine as a hunting-ground may be gathered from the fact that during 1900 it was estimated that not less than 10,000 sportsmen visited the State, and competent judges estimated that within its borders not less than 15,000 deer were killed. The Bangor and Aroostook Railroad in that year carried 3,379 deer and 210 moose, besides bears and other game. In three years 10,000 deer were shipped by this road alone. These figures are from records kept by station-agents, and do not include deer killed by native hunters or the large quantity consumed in camps. Washington County is also a great hunting-ground, and is believed to contain more bears than all others parts of the State. Moose, deer and fish also abound here, and the various stations on the Washington County Railroad may be reached in about 16 or 18 hours from Boston.

The game-laws of Maine are strict. Non-resident sportsmen must be accompanied by a registered guide. The penalty for killing more than one moose is a fine of not less than $500 nor more than $1,000, or imprisonment for not more than four months. The penalty for killing a deer illegally is $40. No one may kill more than two in a season. Trout may be taken from the time the ice leaves until September 15.

The best bass-fishing in the United States is found in Great and Long ponds, near Belgrade Mills, five hours from Boston, about half-way between Augusta and Farmington. The best trout-fishing in the United States is in the Rangeley Lakes in southwestern Maine. These are reached in about eight hours from Boston, *via* Portland and Rumford Falls, and they afford ideal sites for camps. As a proof of the remarkable trout caught in these waters I may mention the fact that a brook-trout weighing 11 pounds, 28½ inches long and having a girth of 16¼ inches was caught in Lake Mooselucmaguntic by my uncle, the late Dr. Charles Haddock, of Beverly, Mass. There is no other place in the United States or Canada, so far as I know, where square-tailed trout of this size may be taken.

Birds are not common in the Maine woods. Evergreen forests do not afford attractive nourishment for them, but in the southwestern portion grouse are found.

When it is considered that almost the entire State has become a pleasure park; that during the "heated season" nearly every section has its quota of visitors from beyond the limits of the State; that the woods and lakes, as well as hills and shores, are visited by thousands whose temporary habitations are camps and tents, and whose names are not found upon the registers of large and fashionable hotels; that the pursuit of game and fish by this class of visitors has furnished, during the past season, remunerative employment to 1,316 registered guides, the enormous extent of the summer-tourist business of Maine can be understood and appreciated, and justifies the claims of well-informed authorities that more than 200,000 visitors and $10,000,000 have been brought into the State during the past season through the attractions of its summer resorts.*

The Islands.—Campobello (latitude 44° 57′ north), just beyond the border of the United States, is a picturesque island in Passamaquoddy Bay, 70 miles northeast of Mount Desert, and three miles from Eastport. It is a favorite summer resort and has a cool and bracing climate.

Washington County, the easternmost part of Maine, abounds in hunting and fishing camps. There are hundreds of streams abounding in trout and salmon, and deer are frequently seen. Always cool in summer, it is a region of intense cold during the winter. The air is sharp and invigorating. The principal camps are at Cherryfield, Columbia Falls, Machias, East Machias, and Franklin. These camps have a capacity of from 10 to 15 guests, and the rates charged are, as a rule, one dollar a day. Further information as to camps and guides can be obtained from the Game Warden of Washington County, or from H. F. Dowst, Calais, Maine.

Mount Desert Island lies close to the northeastern end of the Maine coast. Its coast is rocky and indented by numerous bays. The climate is invigorating, cool, with abundant rain and occasional fog. The air is too chilly and damp even in summer for very delicate persons or those suffering from pulmonary or catarrhal affections. It is suitable in neurasthenia, insomnia, convalescence from chronic illness, and for recuperation from general nervous and mental fatigue. Although Mount Desert is not over 16 miles in diameter, it possesses 13 mountains and 13 lakes. Green Mountain, the highest summit, has an altitude of 1,500 feet. The principal harbors are Bar Harbor, Northeast Harbor, Southwest Harbor and Seal Harbor. These are all popular resorts for three or four months in the year. Bar Harbor attracts most visitors and is the most fashionable resort, but the others have superior natural advantages and are far less expensive for visitors. Bar Harbor his six hotels and a large number of cottages. The latter rent for from $600 to $5,000 for the season.

Frenchman's Bay, lying north of Mount Desert Island, is about eight miles broad, and is an occasional anchorage for warships.

Winter Harbor is reached *via* Bar Harbor, and has an attractive, well-kept hotel on Grindstone Neck, a portion of the mainland. There is a superior club-house, and the harbor affords good anchorage.

Castine is a quiet, picturesque summer resort at the head of Penobscot Bay. It has a cool, stimulating climate and affords excellent opportunities for sailing. The accommodations are rather primitive, and access is by steamer from Portland, Belfast or Bangor. Islesboro is in many respects one of the most desirable resorts on the coast. The southern end of the island is controlled by a company which has built a large inn and has secured the support of gentlemen in Philadelphia, New York and Boston in erecting some of the most beautiful summer residences on the coast. Isle au Haut, Camden, Rockland and the islands near Bath are also well-known resorts.

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* Report of the Bureau of Industrial and Labor Statistics for 1897, p. 67.

Near Portland there are numerous islands which support a large summer population. As a rule the accommodations are very moderate and unpretentious. Orr's Island and Bailey's Island are among the most desirable.

Old Orchard Beach has lapsed from its former prestige and, although largely visited in July and August, does not appeal to those who seek quiet, and at the same time choice surroundings.

Kennebunkport is one of the best places on the Maine coast for summer residence. It is pre-eminently cool, free from fog and full of natural attractions. There are nearly 100 cottages and a few moderate-sized hotels where visitors may be made very comfortable. The average temperature during July, 1900, was 67.2° F. at 8 A.M.; 71.7° F. at 2 P.M., and 67.2° F. at 8 P.M.; in August, at 5 A.M., 60.2° F.; 8 A.M., 66° F.; 2 P.M., 69.5° F.; 8 P.M., 64.4° F. Situated about 25 miles south of Portland, it is much more accessible than the resorts further east, and the water is warmer and excellent for sea-bathing. The temperature of the water ranges from 57° to 67° F. during the summer, averaging 62° in July, 61° in August and about 60° in September.

York Harbor is an attractive old town with a summer colony of moderate proportions.

The mineral springs of Maine deserve mention. The most famous locality of these is Poland Springs. There is probably no mineral water in the United States that has a wider sale. It is a pure, palatable, diuretic water containing 3.67 grains of solids per gallon, the principal ingredient being silica. The resort is open winter and summer and the water is shipped all over the United States.

LACERATIONS OF THE UTERINE CERVIX AND THEIR SEQUELÆ.

BY CHARLES H. BUSHONG, M.D.,
OF NEW YORK;
FORMERLY INSTRUCTOR IN OBSTETRICS IN MEDICAL COLLEGE OF DENVER, COLO.; ASSISTANT IN GYNECOLOGY AT DEMILT DISPENSARY; FORMERLY ATTENDING PHYSICIAN OF THE NORTHERN DISPENSARY, NEW YORK.

MORE than twelve years ago I reported some cases of laceration of the uterine cervix treated without operation,* and expressed the opinion that a large proportion of these cases can be cured by this method. Continued experience has caused me to advise operation in a smaller precentage of these cases each year. Of course there are some which have gone so far when first seen that there is nothing to do but operate, but increased skill in the treatment of these unpromising cases has been followed by a constant decrease in the number requiring the resort to surgery for their relief. Consequently the number of women restored to a condition of health and usefulness without operation is larger each year. Cases that formerly were sewed are now healed with more satisfactory results and without the risks and inconveniences of an operation.

An eminent man has said that a resort to surgery is a confession of therapeutic failure. In no field of medicine is this truth more frequently forgotten than in the treatment of the diseases of women. The fascinations of surgery lead to many operations that might be avoided. Conversatism in this respect will save both physician and patient from the embarrassment of those annoying and unhappy situations where the patients find themselves little, if any degree, relieved of the symptoms for which they sought advice. They are disappointed when they find after the operation that further treatment is needed.

The removal of some healthy tissue is absolutely necessary to get all the diseased tissue away with the knife, and this leads to more or less mutilation, but the most undesirable result of this treatment is the cicatricial plug that always forms after an operation. The ideal result is when this cicatrix is only a line of union, but this is rarely attained, and when it is not, this hard zone of inelastic tissue will cause the same train of symptoms that are found when a torn cervix is permitted to attempt its own restoration unaided by any treatment. These results following operation are frequently more difficult to cure by local applications than the original condition would have been.

The results obtained by local treatment are always more satisfactory than those from operation. When a perfect cure is made the cervix has absolutely no cicatricial tissue left in it. This can be secured if the treatment is correct and long enough continued. Such a result is rarely, if ever, seen after an operation unless the operation-scar is removed by subsequent treatment. Consequently it is better to cure from the beginning by that means and save the patient from an operation. The time and patience required by this method are well repaid by the better results that follow its use.

The fact that patients are so frequently seen who have been operated upon by the best surgeons in this field, but are still uncured, is proof that it is not so much the want of skill in operating that is at fault as it is the fact that no operation will cure them. The best results are obtained by treatment, and the operation should only be resorted to in the very few cases where the local and systemic use of remedies fails.

The symptoms caused by a laceration in the neck of the uterus are too well known to require more than a brief enumeration. They may vary in degree from a condition giving the patient almost no inconvenience to one of severe suffering. The most pronounced are backache, headache and pains in the pelvis. Any or all of them may be present. The backache is frequently confined to the lumbar region, but may extend from the sacrum to the base of the skull. It is frequently very intense and may oblige the sufferer to keep her couch much of the time. The headache is usually at the top of the cranium, and often extends downward to the nape of the neck, there joining the backache, so that a consecutive line of pains extends from the crown to the tip of the coccyx. This aggravated condition is fortunately not so common now that women are becoming better informed as to the relief they can secure from early treatment.

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* Minor Lacerations of the Cervix, Medical Record, January 18, 1890.

Frequently the headache is spoken of by the patients as a weight or a feeling of pressure on the top of the head. When this symptom is present the pelvis should always be examined, even if no other indication for such examination is found. Rarely there is a frontal headache, but when complained of it will usually be associated with some disturbance of the digestive tract, and it is probably due to this cause rather than to the pelvic condition.

The pains in the pelvis may vary from a slight feeling of heaviness to the most acute attacks of sharp, lancinating pain. When this intense pain exists it is often due to an associated disease of the uterine adnexa, which involvement is frequently a sequel of the injury to the cervix. When the pathological condition is chiefly limited to the uterus the pains are more likely to be described as an aching, or as "bearing-down pains."

Leucorrhea is almost always present with a torn cervix. It varies in amount from a little moisture that the patient scarcely notices to a profuse, thick discharge which may cause her to wear a napkin to protect her clothing. If the discharge is bloody there is either a pronounced endometritis or a break in the continuity of the cervical mucous membrane. Bloody leucorrhea is an indication for prompt and continuous interference, as this symptom is so often the first evidence of malignant disease, and it may be present a number of months without any other symptom, pain being frequently absent until the disease is quite far advanced. This caution is particularly called for in cases where the patient is more than thirty-five years old. These cases cannot receive attention too early. Energetic treatment, if begun in time, will save many from serious danger. While it is not proved that cancer can develop from a neglected cervix which is torn and raw from irritating discharges, I have seen many cases that looked as if malignant disease were inevitable in which prompt and energetic treatment has effected a radical cure. It is a safe plan to treat a torn cervix as early as possible, and to continue treating it until it is restored to a normal state.

In order to get results in the treatment of laceration of the cervix thorough attention to details is essential. It is necessary to study the requirements of each case by itself. It is not enough to follow a routine of introducing some cotton through a speculum, treating all with the same solution, inserting a tampon, and then fondly imagining that the patient is being treated. Failures are usually the result of this kind of work. The individual indications must be studied in each separate case and treatment applied accordingly.

Extensive tears of the cervix can be healed and the parts restored to their normal condition if treated properly. The patient's cooperation must be secured from the beginning. This can almost always be done if she is honestly told that her trouble is of such a nature that its removal is a matter requiring much time and patience. The great importance of presenting herself regularly for treatment must be impressed upon her mind, and the alternative of an operation made plain to her. She must also be instructed in the matter of using douches and keeping her bowels regular. The average woman is wofully ignorant in regard to both of these matters, and they are her most important part in the treatment. The douches should always be taken with the patient on her back, the hips a little higher than the shoulders. The fountain syringe should be used, and its capacity should be at least two quarts. The reservoir should never be more than three feet above her hips, and should be less than that if it causes the least pain. The temperature of the water must be regulated to suit the case. If there is ovarian complication it should not be too hot, but on general principles hot water is more beneficial than warm water. The importance of proper douching is evidenced by the fact, well known to many, that this alone will frequently heal a fresh tear, made at confinement, without any other treatment. Besides the cleansing action of the hot water the medicinal effect of the local application of heat directly to the tissues is good. The best time for taking the douche is at night and in the morning.

The need of a free and complete emptying of the bowel must not be forgotten. The general system is benefited by keeping the bowels regular, and the local congestion is lessened by the daily evacuation. A tablet containing cascara sagrada, aloin, nux vomica and belladonna will answer well in most cases, but if a more active purge is indicated a saline taken each morning before breakfast will be found very efficient. It is a good rule to insist on one large bowel-movement each day and to be sure that it is secured.

Laceration of the cervix is seen in all stages, from a unilateral tear that is only a slight depression in one side of the outer rim of the cervical cone to a deep separation extending to the line of union of the cervix with the vault of the vagina. These tears may be unilateral, bilateral or stellate (multiple), and they vary in the amount of gaping. In all but recent lacerations an area of hard cicatricial tissue is found under and around the edges of the torn surface. This cicatrix is inelastic and acts as a foreign body in the cervix, causing many of the symptoms of which the patient complains. It is deposited there by the efforts of the natural reparative processes of the system to heal the injury. The complete removal of this tissue is the key to the successful treatment of these cases. Restoration of the outline of the cervix is a secondary matter in the relief of the symptoms. The pains in the pelvis (when not ovarian) are almost always due to this mass in the cervix. The so-called "nervous symptoms" will disappear on its removal. Dysmenorrhea is another symptom that can frequently be traced to this cause, though it must be distinguished from painful menstruation due to other causes.

The presence of a zone of scar-tissue in the cervix is an added danger to its integrity during childbirth, as this portion of the cervix will not yield before the presenting part, and the dilation is thus restricted and a deep tear is liable to occur. One case in my experience required to be cut at the time of delivery to allow the child's head to come out of the uterus.

Since that time I have always treated pregnant women for the cure of this condition even if they were well advanced in pregnancy when the condition of the cervix was discovered, and I have seen only good results from such treatment. There is no reason why there should be any danger from local treatment at this time; in fact, many pregnant women are benefited by having applications made to the cervix and the vagina cleansed and supported by a small tampon. Women treated during their period of gestation have an easier time at confinement than they had at previous deliveries not preceded by treatment.

Several drugs are known to possess the power of promoting the absorption and removal of cicatricial tissue underlying mucous membranes, when locally applied, but Monsel's solution has been most satisfactory in my experience. In all cases not complicated by erosion of the cervix the method is quite simple. When subinvolution or other complication is present some modification of the treatment is called for. It is always well to remember that the genital organs are all interdependent and must be treated as parts of a system, and not as isolated tissues.

It is usual to treat these cases with the patient in the dorsal position, using a bivalve speculum; but if more convenient for light, etc., she may be treated lying on her side with a Sims's or a Cleveland's self-retaining speculum. The cervix must be in plain view in a good light, as its condition should be inspected before each application is made. Any discharges are first removed from the vagina and cervix with clean absorbent cotton, and the canal is then mopped out with fresh cotton which has been saturated with tincture of green soap. After the soap and water have been removed with dry cotton it is advisable to apply some pure alcohol to insure a perfectly clean surface before the remedial agent is introduced. If there is a thick tenacious plug in the cervical canal it can be removed by wrapping a uterine applicator with a small layer of cotton, dipping it lightly in some carbolic acid, and gently introducing it up to the internal os. It should not go beyond this point.

After the entire surface of mucous membrane has been made clean, Monsel's solution is liberally applied to the cervix and the surrounding vault of the vagina. There is more danger of using too little than too much of the iron solution. The parts immediately over the scar tissue must be flooded with it if a cure is to be effected. If some of the solution is left in the vagina it is better, as the tampon will hold it in place.

The tampon should be large enough to fill the upper part of the vagina and prevent any leaking of the medicine left there. It must not be wrapped too tight and should have a thread looped around it by which the patient can withdraw it the evening following treatment. Before the tampon is put in place it is dipped in glycerin so that one end of it is well saturated with the liquid. If an astringent is indicated some alum and boric acid can be dissolved in the glycerin.

The tampon is an important factor in the treatment of these cases. It holds the medicine in contact with the mucous membrane, thus securing a prolonged application; it acts as a support when such use is indicated, and it retains the discharge within the vagina until the patient reaches her home. When inflammation or old adhesions resulting from former inflammation are present the action of the glycerin by depleting these thickened tissues will be of much benefit. This action will cause a copious watery discharge, lasting while she is wearing the tampon. Frequently a skin-like cast of the vagina will be expelled either with the cotton when it is taken out or a day or two after. This should cause no alarm. No douches should be taken until the tampon is removed.

Advanced stages of lacerated cervix are usually complicated with other disease processes resulting therefrom. The most common of these is caused by a destruction of the mucous membrane of the cervix. This destruction may involve only the outer layers of the mucous membrane, or it may be through the entire depth of the membrane. The most common cause of this destructive process is the presence of irritating discharges, either from within the uterus or resulting from disease in the vagina itself. This is the condition frequently mentioned in the text-books as ulceration, but only in its later stages is there any true ulcerative process present.

When the mucous membrane is broken or eroded as has just been described, it is advisable to apply some remedy to aid the healing and restoration of the destroyed membrane. The cleansing action of frequent douching will do something towards bringing about this result, but it can be aided much more by drugs. The best remedy for healing these erosions is a combination of pure tincture of iodine and beechwood creosote. They are mixed in equal parts of each. Churchill's tincture has generally been recommended for this purpose but it is not nearly so efficient as the tincture of iodine with creosote. The denuded surface is bathed in the mixture before applying Monsel's solution for its action on the deeper structures. In other respects the treatment is the same. In cases where there is no cicatricial hardening the iron is omitted.

The frequency of these applications must be carefully considered. The astringent action of the solution of the subsulphate of iron will be found quite evident to the examining finger as late as the fourth day after the treatment is made, and there is little profit in making applications oftener than once in five days. If the patient is very sensitive, once each week will be found best for her. The treatment is suspended about three days before her expected menstruation and is not resumed until the fourth day after the flow has ceased. In very bad cases, especially if the patient is weak and run down, it is wiser to make the visits every five days and to apply the iron at every alternate visit, using only the iodine and creosote at the others. If the parts become irritated the condition will be relieved by leaving out Monsel's solution for a few treatments, resuming it when the tenderness has passed.

Under these conditions patience on the part of both patient and physician are most important factors in effecting a cure. Without it many failures will be recorded, but perseverance will be rewarded by many cures. Of course the degree of successful treatment will depend largely on the judgment of the physician in selecting the proper remedies to apply, as well as upon his skill and dexterity in applying them.

The following history will illustrate the character of the symptoms, and to some extent the plan of treatment employed:

Mrs. A. S., aged thirty-three years, married 13 years, has had four children and two miscarriages, the last miscarriage being two and a half years ago. She began to suffer four years ago, since which time the symptoms have gradually become worse. She now complains of severe and almost constant backache, pains in the left inguinal region, and leucorrhea. She has lost flesh, feels tired, and is very nervous. On inquiry constipation is also found to be a symptom. Examination of the pelvis revealed an extensive bilateral laceration in the cervix, deeper on the left side, where it reached to the point of contact with the vault of the vagina on that side. A hard mass of cicatricial thickening could be felt underlying the base of this tear. A similar mass of smaller extent was present on the right side. The cervix was large, congested, and suspicious in appearance, the uterus enlarged, slightly anteflexed, and a little inflammatory thickening was present to the left, in the peri-uterine tissue. No evidence of disease of the ovaries or tubes was apparent.

Applications of the tincture of iodine and creosote were made to the entire cervix and the surface immediately over the hard tissue was well covered with Monsel's solution in full strength and a large cotton tampon, saturated with boroglycerin, was applied to the cervix in such a way as to retain all the medicine in the upper part of the vagina. These applications were made every five days except during the time she was menstruating. After a few treatments it was found that the iron was causing a little irritation and thereafter it was used only at each alternate visit. The tampon was ordered to be removed in the evening of the day following the visit and a douche of two quarts of hot water containing a tablespoonful of salt was used every morning and evening. The bowels were regulated by a tablet containing cascara, aloin, nux vomica, and belladonna, which was taken on retiring.

She came regularly for more than six months, and was much improved. In consequence of the improvement, and because she lived out of town and found the trips a burden, she ceased to come before being told that she was well enough to stop the treatment. After an absence of several weeks she returned and said she had noticed a slight recurrence of the backache the day before and was frightened. She remarked that before beginning treatment she had backache so much of the time that she had almost concluded she would always have it, but that after a few months of treatment her backaches had all gone away, and the slight attack of the day before had caused her to return at once to complete her cure.

Her condition at this time is noted. She has gained five pounds, is no longer nervous, and rarely has any pain in the back. She needs only an occasional tablet for her bowels.

The examination report shows a slightly anteflexed uterus of normal size, with the cervix a trifle enlarged and of normal consistency. There is no evidence of the tear on the right side of the cervix, and the left has healed to half its depth and is smooth and soft. The resistant masses that were formerly found under each laceration cannot now be detected at all.

Treatment was continued for a month or six weeks longer, and there has since been no return of any of the symptoms.

This case is a typical one, and equally good results are the rule when the treatment is continued until all the symptoms are removed and no scars are left in the cervix.

The next condensed report will show the improvement that resulted from local applications to the cervix during pregnancy. Only the salient points of the history are given:

Mrs. G. was first examined during the delivery of her third child. The cervix was then found hard and ragged from tears, evidently the result of former confinements. The labor was slow and delivery was finally completed with the aid of forceps. After she was up she was advised to have treatment for the cervix, but the advice was not taken. About a year later she was seen and found to be in labor again, and a six-months' fetus was delivered. She was very ill at this time and became despondent, dreading a future conception. As a result of considerable urging she was treated a few times, but not long enough to make much progress before she again remained away. After some months she came to the office in great distress of mind. She felt that she was again pregnant. Examination showed her suspicion to be well founded. She was about three months pregnant. She was very unhappy, remembering her former difficulties. To add to her distress, she developed a most intractable vomiting. This was not only a morning sickness, but she could scarcely keep anything on her stomach at any time. Drugs given internally had almost no effect. She was finally induced to begin a regular course of local treatment, and came faithfully for about two months. There was no nausea while she wore her tampon, from the first time it was introduced, and improvement of all her symptoms followed the treatment. The cervix became softer and less congested. She carried her child to full term and was delivered without interference, about ten hours from the onset of the labor pains.

This case was the first to be treated in pregnancy, and since then numerous others have been benefited by the same method. I have repeatedly advised similar treatment in cases seen in consultation, and good results have always been reported when the advice was taken.

124 West Ninty-fourth St., Manhattan,

THE INFLUENCE AND VALUE OF ORGANIZATION.*

BY GEORGE W. MILES, A.M., M.D.,

OF ONEIDA, NEW YORK.

In the few moments allotted on this occasion to the subject of the influence and value of organization only remarks of a very general character are possible. It is hoped that the application will be evident to this child of our own born to-day, this new body among the many organizations of skilled labor.

The principle of organization is a legal right, a natural right, a moral right. It is inherent in man and in society, and is nearly as old as the human race. It is a valuable principle. It is fundamental in our nature, and when applied to mental effort, to intellectual and scientific work, this principle becomes an important educational factor in human advancement. The organization of bodies of men engaged in like occupations is very old. The systematic union of individuals in a body whose officers, agents and members work together for a common end was known in very ancient times. Historically we have knowledge of consolidations and associations of men for mutual protection and interest, especially in England, for about three centuries. Some students have held that the craft-guilds of ancient and medieval associations were also genuine predecessors of our modern organizations for mutual profit, benefit and instruction. The old and medieval guilds, as well as those of the seventeenth and eighteenth centuries, were more strictly commercial in their nature. They nevertheless fostered skill and did an immense work in the development of industry. Primarily, then as now, it was the individuality of interests as represented by the union of those engaged in the same line of work which led up by a perfectly natural growth, to the present widespread consolidation of working interests of a like nature in special organizations.

The writer believes heartily in the right of organization, in the value of organization, in the benefits derived from organization along all lines of labor. Organization means discipline. It also means power, if only the mistakes which have impeded true progress in the past be guarded against and the highest ideals be lived up to. There is, however, nothing in any organization of itself inherently sacred or beneficial. The organization is simply an outward expression of the spirit of cooperation between individuals. Its benefits will depend entirely on the ideals and methods which the individual shall adopt. If standards are correct, if ideals are high, if methods are right, the organization may become useful to humanity, valuable in itself and to itself, and helpful and strengthening to its individual members.

If an organization is to become a strong, wholesome working force the individuals constituting its membership must be men of broad views and sound character. Aims and methods must not be narrow or selfish. The endeavor should be to raise the average level, which will result in an effectual guardianship of the association's real interests. In general, organization must consist in bringing into systematic connection and cooperation all elements as parts of a whole, and bringing the various parts into effective correlation and participation. Specifically, all members should be joined in reciprocal and correlative relations and duties. The thirst for leadership and the unseemly ambition of the office-seeker must be under control in any successful organization for intellectual work. Political manipulations tending towards leadership should ever be frowned upon, if the greatest good is to be accomplished. More than one association of brilliant scholars has gone to ruin, a prey to the office-seeking spirit on the part of members. Jealousy and intrigue for honors and office are not found in that organization which grows and strengthens with the years. In an association such as is founded here to-day, it is earnest scientific work and work alone which will breed higher and higher aspirations and thus disclose, as time goes on, the true value and benefit of organization. The tendency of those industrial unions of our own day in which sound morals prevail, is towards the elevation of the wage-scale. So too, in that scientific body where fair methods and hard work are the watchwords, the tendency is to raise the standard of general intellectual effort and thus benefit all mankind. To increase the number of such organizations for concerted study and mental work, and to add to their membership and strength, every proper encouragement should be offered.

It has been quite truthfully observed that the average man, no matter what his calling, needs a strong incentive in order to yield anything like a maximum output of work. The slightest relaxation of that incentive has a marked effect on the amount. The apathy of the average worker to all progression is owing to his inability to see the necessity for any advance. The necessity for a motive for work is just as great, if not greater, in the case of the scientific or intellectual as in that of the industrial laborer. Organization furnishes such a motive, incentive and spur to work; there is an arousing of intelligence and dormant faculties, a reawakening to the responsibility of industry through the keenness of competition. Thus through the effect of organization upon individuals, and by reason of harmonious effort in apportioned work, results have been achieved which are of extreme usefulness to the intellectual industry of to-day and will be invaluable to that of the future.

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The immense power of organized effort aids the individual worker and conduces to his real and lasting benefit in the shape of a deepened interest and a broadened outlook. It is educational in the highest degree, and its greatest good is that it awakens and sustains his interest in his life-work and lends a healthy and vitalizing power to labors which otherwise sometimes become quite aimless. While self-help is undoubtedly always the best help, it is no less true that organized effort of craftsmen in a common field of industry tends to overcome all opposition, to produce a spirit of self-reliance, a recognition of personal rights, and a due consideration of the rights of others, all which are of the greatest value. The chief factor in the success of every man, in every field of intellectual labor, must always be his own individual qualities and abilities, but the very greatest aid will also always be found in the power of acting in combination or association with others. Organization is directed to the survival of the fittest and to the fitting of as many as possible to survive.

I can in no other way so well bring these remarks to a close as by repeating from a recent state paper the words of Hon. Theodore Roosevelt, President of the United States: "When all is said and done the rule of brotherhood remains as the indispensable prerequisite to success in the affairs of our life. True, each man must work for himself, and unless he so works no outside aid can avail him, but each man must remember also that he is indeed his brother's keeper and that we can all best help ourselves by joining together in the work that is of common interest to us all."

URIC ACID IN THE BLOOD AND TISSUES AS A CAUSE FOR CERTAIN STOMACH AND INTESTINAL TROUBLES.

BY FREEMAN F. WARD, M.D.,
OF NEW YORK.

IT is not my purpose to go into the etiology and theory of the origin and production of uric acid in the system, nor to take up the subject of this substance as a causative factor of gout and rheumatism, in an exhaustive way. Far abler men than I have written volumes on this subject, and still disagree, but I do wish to call especial attention to a certain class of cases which I believe to be dependent upon the presence of uric acid in the blood and tissues as a cause.

In many cases of disturbance of the digestive organs I have good reason to believe that we have to deal with this condition. Cases present themselves with the clinical picture of attacks of pain, often cramp-like in character, in the stomach or bowels, with no marked abnormal changes in the gastric juice, but the patients having a distinctly uric-acid diathesis, and more or less of this substance excreted in the urine. I believe that many cases of so-called gastric neuralgia have this condition as the underlying cause. In other words, they are cases of rheumatisms or gout of the stomach or intestines.

All physicians are familiar with the danger of so-called retrocedent gout, or gout of the intestines, in acute attacks of this disease, and of sometimes producing this condition by too active treatment during acute attacks. We are also familiar with the cases of rheumatism which become worse in the first days of treatment before improvement begins. These are all due, I believe, to one and the same cause; namely, that the tissues themselves are stored with uric-acid xanthins or whatever other toxic substances cause the disease, and the medicine acting as a solvent drives it into the blood, producing an excess there and aggravating the symptoms until the excretory organs can carry it off.

Not seldom have I had cases in which, finding considerable uric acid in the urine, I have put the patients on appropriate treatment, with the result, at first, of bringing out rheumatic pains and cramps in the stomach and intestines with extreme tenderness, all of which symptoms would disappear in a few days without any change in the treatment.

It is my desire in writing this article not only to bring to notice, in particular, the class of cases referred to, but in speaking of the treatment I wish to include in a broad and general way all conditions which are dependent as a causative factor upon an excess of uric acid in the blood and tissues, or a tendency to produce it in the organism. There is no necessity of more than referring to the old and well-known drugs, such as the iodides, colchicum, oil of wintergreen, sodium salicylate and their derivatives, some of which are put up in very convenient and palatable forms, and which in many cases are very efficient. Furthermore, in the special class of cases I have referred to, we must have something non-irritant to the stomach. As I said before, I do not wish to enter into a discussion of the theories of the origin or production of uric acid in the system, nor whether it is the real cause of *all* cases of gout or rheumatism. But a few things, I think, we may say, we do know.

1. That some toxic substance or other, circulating in the blood, through some faulty metabolism, is the cause of many of these cases, and also of numerous other affections and changes in the vital organs, without giving us physical signs. Within

the limits of my private practice I have seen two cases at autopsy, where, during life and even a very short time before death, the heart gave no signs of disease, but the autopsy disclosed occlusion of many of the tubules of the kidney with uric acid crystals. The chief cause of death, however, was complete occlusion of the posterior coronary artery of the heart with more or less fatty degeneration of the heart muscle.

2. That we find individuals (and in no small numbers) who have a tendency to an excess of uric acid, exhibiting its effects by widely different manifestations; in some, as anemia or headaches; in others, as frequent sore throat without other cause; in others still, as gout or as muscular rheumatism, and again simply by a feeling of general congestion and heaviness, soreness of eyeballs, cold feet and hands, which indicates to my mind occlusion or congestion of the capillary circulation.

No matter what theory we accept as to the origin of this acid, whether in the liver, or in the kidneys, or through faulty metabolism, we find the occular evidence of it, as crystals in the urine, as well as in the blood itself. I myself believe that a part of the acid, if not all, is due to lack of proper changes in the food-stuff as it passes through the cells during absorption, for we know that assimilation is a vastly more complicated process than simple absorption of the chyme, after it has passed through gastric and intestinal digestion, and that extensive, complicated and minute changes occur by the action of the cells themselves on the food-stuff as it is being absorbed.

We all know, too, what unsatisfactory results we obtain in many cases by simply cutting off from the diet those foods containing uric acid. Although it is quite a proper measure, there are many cases in which restricted dieting would be injurious, when the patients must be fed, even allowing many articles of food which would be theoretically excluded. Now, how are we to eliminate the uric acid from the system, prevent its production, and contribute generally to the well-being of the patient?

First, I will speak of but one drug, not as a specific be it understood, nor to the detriment of older and well-known remedies, which I still value very highly; but I speak of this one because of extensive experiments which I have made with it, and because it is, perhaps, not well known among our own physicians.

Secondly, I wish to lay more stress upon hydrotherapeutics or the so-called "Spa Treatment" in these cases, especially during the summer months, believing that we have much to learn yet in this respect from our German colleagues; the more the pity, too, because we have, in this country, resources in mineral waters unequaled in the world, which only need to be studied, developed and used by our own physicians to create at our most valuable springs such an atmosphere of their utility and usefulness as exists at similar places abroad.

The drug which I refer to is called sidonal, a synthetical compound of quinic acid and piperazin. It came to my notice, almost by accident, two years ago while in Berlin, through an artist whom I met there, and in such a way as to create more than a passing impression. At my own request the manufacturers placed at my disposal, through their New York agents, a sufficient quantity of the drug to make extensive trials and experiments. I used about 50 ounces of this drug, and prescribed probably about as much more; and I give, appended, a few of the cases selected to show in which class of cases it worked best, and also to demonstrate the instances in which it is of no avail, for this is a drug for the well-to-do, and must not be prescribed recklessly, the expense being its only drawback.

Case I.—Mrs. H., aged forty years; distinctly uric-acid diathesis, with excessive amount of this substance found in the urine, and hyperacidity of the stomach. Attacks of extreme dizziness, nausea, and a great deal of malaise, simulating chronic malaria. At first 15-grain doses of sidonal were prescribed with one-half glass of water from one to two hours after meals. The effects were marked from the first—disappearance of uric acid in the urine; general sense of well-being, and relief of the feeling of congestion.

Case II.—Mrs. P., aged forty-three years; symptoms very similar to above, with obstinate constipation. The 15-grain doses of sidonal caused disappearance of uric acid in the urine and general improvement in the patient, followed by regularity of the bowels. This patient keeps sidonal always at hand.

Case III.—Mr. T., aged twenty-five years; marked uric-acid diathesis with burning irritation of the bladder and burning irritation in voiding urine; pains in the calves. Four days' administration of sidonal was followed by complete disappearance of all unfavorable symptoms and general improvement in the feeling of the patient.

Case IV.—Mr. T., aged forty-eight years; subject to severe attacks of lumbago and general muscular pain; following these attacks an access of uric acid was always found in the urine. Administration of sidonal in 15-grain doses three times a day, gave relief in 24 hours and caused disappearance of the uric acid.

Many more cases could be cited identical with these. I would only add that in none of these cases did the symptoms return, or did uric acid reappear after the cessation of the drug, until the patients had transgressed in diet, or committed some error in hygiene to bring on another attack.

On the other hand I will now mention:

Case I.—Miss B., aged twenty-eight years; symptoms headache, occasional attacks of dizziness; no uric acid of appreciable amount found in the urine. Sidonal in 10-grain doses during attacks gave no results whatever.

Case II.—Miss M., aged fifty years; severe attacks of migraine and neuralgic pains in different parts of the body. Repeated examinations of the urine showed no appreciable amount, at any time, of uric acid. Administration of sidonal during attacks gave no results.

Case III.—Mrs. C., aged forty-eight years; almost constant neuralgic pain in left arm and shoulder, increased by using sidonal. No uric acid in urine after repeated examinations.

Sidonal in 10-grain doses gave no result whatever, but did not disturb digestion.

I could go on and quote numbers of cases in both classes, with similar results in all. These will suffice to show the action of the drug, which I wish to bring out, and the class of cases in which it is indicated and contraindicated.

Now it will be seen that in those cases where there was an excess of uric acid in the urine, or a tendency to produce it, this drug worked in an ideal way, but in the other cases, where very little or no uric acid was found, after repeated trials, the drug was of no avail, although it did no harm. In some cases its effects were so astonishing that I thought it must act by inhibiting the excretion, and that when the drug was stopped the symptoms would return, but the examinations following cessation of the drug showed no reappearance of the uric acid, nor was the patient's sense of well-being diminished.

How does it act? I am frank to say that I do not know, but my theory, deduced from observation and study of its action, is that it stimulates the cell-protoplasm to do its normal work, whether it be in the liver, kidneys or intestines, and causes a more complete oxidation and assimilation of the foodstuffs, thus avoiding the necessity of subjecting the patient to so strict a diet.

I am still using this drug with great satisfaction in well-selected cases, and trust that other members of the profession will make further experiments and report some of their results. I may say that almost without exception the patients have found it non-irritating to the stomach and rather pleasant to take. The powder should be dissolved in half a glass of water and given after meals.

Now as to the importance of the natural method of treatment by mineral waters, not only of gout and rheumatism, but of all those conditions dependent upon uric acid, including the cases specially referred to, so far as practicable, directly at the springs. No one doubts the efficacy of the so-called "Spa Treatment" in well-selected cases of *chronic* disease, for I believe it is generally conceded that mineral-water treatment is contraindicated in acute troubles. We are coming to realize more and more that it is quite unnecessary to send our patients abroad for such therapeutic measures; that we have in this country not only just as good waters as they have in Europe, but in as large or even larger variety. It is quite natural, when the hydrotherapeutic measures seem indicated with any of our patients, to think first of sending them to the Old World, where for generations more attention has been given to this natural method of treatment. For scarcely anyone in Europe suffering from chronic disease or abnormal condition, who can possibly afford it, fails to take a course of treatment at some spa every year. I do not wish to disparage or criticize the giving of such advice to patients, for the ocean-voyage, the getting so far away from business, with the complete change of scene, are in many cases beneficial; but there are many to whom the sea-voyage is a bugbear, and who suffer more harm by it than can be offset by the treatment which they receive while there. Many, too, cannot afford the expense, or cannot be so far or so long away from business or from home. For such to go abroad is not *necessary,* for we have the same means in abundance at many springs in this country, since there is scarcely a State in the Union which does not possess some spring or springs of real medicinal value.

It is to be regretted that the same facilities for treatment are not provided at some of our most valuable spas as exist in the Old World, but there are many where this does obtain, and the number is increasing. One great drawback to such treatment in this country has been laxity on the part of physicians themselves in making a study of hydrotherapeutics, the testing of the waters of our own springs and the using of them in their practice at home, thus determining to which spring it is best to send each individual patient, for it is just as necessary and important to select a suitable mineral water for a patient, as it is to prescribe the proper drug, and often requires more care. Another element which has worked to the detriment of this course of treatment is the reckless advertising of the owners of springs, their special water being vaunted as a cure-all for every malady under the sun. This naturally antagonizes the physician, just as the owner of some proprietary nostrum does when he advertises his special preparation as a cure for all diseases that human flesh is heir to.

Mineral waters should be prescribed and used intelligently and with the same care that is exercised in the selection of our drugs. In many cases actual harm is done to the system by drinking immoderately of the wrong water, and in many other cases, while no actual harm is done, the benefit is not derived which might be obtained by having the proper water prescribed on a scientific basis. It would occupy too much time and space to go in detail into the subject of the different waters at our disposal in this country, or to attempt to enumerate the indications for the use of each special one; but it is sufficient to emphasize the fact that from Maine to California we have these waters at our disposal, and available for almost any condition.

A few of the most valuable and most utilized may be mentioned, as the Hot Springs of Virginia, Saratoga, Richfield, Sharon and Avon Springs in New York; Bedford Springs, Pa.; Crab-Orchard and Harrodsburg Springs, Ky. The Vichy Springs in Alamoden, Cal., and the Alma-Bromo and Almarian Springs of Alma, Michigan.

Of all these the springs probably offering the greatest wealth of mineral waters in the way of variety and strength, suitable to the greatest variety of cases, are those at Saratoga. It is strange that at this spa where we have the greatest wealth of waters and greatest accessibility for large centers of population we find least inclination to utilize them.

It cannot be too strongly emphasized that systematic mineral-water treatment should be recommended only after careful chemical and physical examination.

As a matter of fact there are very many cases in which the drinking of mineral waters is contraindicated, as in cardiac disease, dilated stomach, pyloric obstruction, etc. Two deaths have been reported as occurring at Saratoga, where unfavorable results were undoubtedly due to unwise or unadvised use of the waters.

It should be said that besides the waters there are many other factors offered at Saratoga which, properly used, will contribute to the end in view.

There is as completely equipped a bath-house as one can find at any spa in the world, besides several smaller ones, where a patient can obtain any kind of bath prescribed by his physician, plain or mineral water, Turkish or Russian, and Swedish movements if required, and including the celebrated Nauheim bath, which can be given here as well, and with as good results, as in Nauheim, Germany.

Also to be mentioned is the beautiful surrounding country, with its broad expanse of view and the mountains in the distance, its beautiful drives, walks, bicycle paths, and one of the most picturesque golf-courses and tennis-courts in the country.

All these things contribute to the pleasure and diversion of those visiting this place for health and recreation, even though they may not themselves take active part in the sports. Then the atmosphere is delightfully bracing, pure and clean, and although in the heated term the weather may be warm during the middle of the day, there is always abundant shade if one needs to go out, and the nights are almost invariably cool.

The main drawback to a successful course of treatment at Saratoga Springs is the lack of facilities in the best hotels for the proper diet of patients, and herein lies the great superiority of the European spas over our own. But no doubt when the demand seems to justify it the hotels will establish diet-kitchens and offer facilities to the guests who are visiting Saratoga for the benefit of their health, so that the régime prescribed by the physician may be more easily followed.

6 East Fifty-eighth Street.

The Passage of the Tubercle Bacillus Into the Chyle and Thoracic Duct.—In experiments on the guinea-pig performed by J. Nicolas and A. Descos (Jour. Phys. et Pathol. gen., Sept. 15, 1902) it was discovered that three hours after the ingestion of tubercle bacilli, the chyle and lymph of the thoracic duct can contain the bacilli in a number sufficient to impart tuberculosis to the animal.

GUNSHOT WOUNDS OF THE CHEST AND ABDOMEN FROM A MILITARY STANDPOINT.*

BY LOUIS A. LA-GARDE,
OF NEW YORK;
MAJOR AND SURGEON, U. S. A.

All gunshot wounds have to be specially considered when they occur in military or civil practice. This is largely due to difference in size, composition, and velocity of the projectiles; to environment; transport; morale. The last three differences have remained invariable from the beginning, while the first, relating to differences in the projectiles, has varied with progress in the manufacture of firearms.

In olden times, when the hand-weapons, including the pistol and rifle, all carried a very large ball, the character of the wound inflicted varied but little. Later as the caliber of the pistol was reduced the wound which it inflicted commenced to differ markedly from that inflicted by the large rifle-ball. In recent times the sectional area of the rifle-ball also has been reduced to a point which is, generally speaking, less than that of the pistol in ordinary use. From this one might gather that wounds from the modern rifle should be attended with limited destructive effects corresponding to the reduction in caliber. This is true only of the soft parts, and of those tissues, like the lung and joint-ends of bone, which offer only a minimum amount of resistance. Again, the range, or—what is equal to the expression—the velocity of the bullet on impact determines a great deal in estimating the destructive effects of gunshot wounds. The velocity of pistol-balls, from which the wounds in civil practice mostly occur, is generally low, while the velocity of the modern military rifle-bullet is very high. The extent of destruction in gunshot injuries is determined by the velocity and sectional area of the missile and the amount of resistance encountered at the point of impact. The greatest resistance in tissue-wounds comes from (1) compact bone, like that encountered in the shaft of the long bones, and (2) water.

In so far as the difference in lesion and prognosis is concerned I desire to show that from a military standpoint the character of the wounds of the thorax and abdomen are largely influenced by the resistance encountered in the tissues traversed, as well as by the amount of velocity of the small steel-jacketed bullet on impact.

Thorax.—The fact that the viscera in the thorax often escape injury by the modern rifle-bullet has been commented on by nearly all the observers. These cases of unexpected recovery can only be explained upon the ground that structures like the heart and great vessels and the esophagus are held by loose cellular tissue which permits displacement at the moment of impact. The change in position is more apt to occur when the remaining velocity of the bullet is low. On the other hand, high velocity, as one finds in the military rifle, favors injury to everything in the line of flight of the missile. There is no time for displacement. The soft tissues are cut as with a knife. In the case of the heart we may infer that its variability in bulk from systole to diastole explains some of the phenomenal escapes from death. Surgeons in recent wars have repeatedly observed recoveries from wounds in the heart-area that could hardly be explained on other grounds. There is nothing about the heart-muscle and pericardium to offer resistance enough to show explosive lesions, and it may be surmised that wounds of the heart-muscle and pericardium ending in recovery are apt to occur more often from the present service-bullet than they did from the old. On the other hand, shots through the heart that invade the cavities at close range are apt to be attended with great destruction from the amount of resistance of its fluid contents and the superior velocity of the bullet at the time of impact. The following cases illustrate in a measure some of the unexpected recoveries one is apt to observe from wounds of the thorax by the steel-clad bullet.

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*This paper was to have been read by the author, but, owing to his unavoidable absence, under the rules of the Association it was treated as a volunteer paper.

Case I.—A. F., late Co. C, Twenty-first Infantry, was wounded in battle of Calamba, P. I., July 30, 1899, by a Mauser bullet at a distance of 250 yards. The bullet entered the right chest in upper areola around nipple over intercostal space. Wound of entrance a small circular scar ⅓ cm. in diameter. The bullet passed down and emerged from back three cm. to left of second lumbar spine by an oval scar, 1½+¾ cm. Left leg was totally paralyzed immediately after injury. There was a slight hemoptysis two days later. Wound healed rapidly without suppuration. For six months back was very weak and stiff and the patient was confined to his bed on that account. For last two months he has been up and about on crutches. Sensation returned in left leg two months after injury, and power in leg began to return one month later. Remote effects: Left leg is partially paralyzed and weak. Impaired sensation over leg. Unable to bear weight upon leg on account of special weakness of quadriceps extensor. Pain in big toe and shooting through leg.

Case II.—T. F. McC., late Co. I, Ninth Infantry, was wounded in battle of Porac, P. I., Sept. 28, 1899. The ball, supposed to have been a Remington, caliber .45, fired from a distance of 100 yards, entered in suprasternal notch, passed through trachea and esophagus, lodging in unknown position. Unconscious for one hour after being wounded. Hemoptysis, very profuse at first, lasted until December, 1899. Unable to take any food or liquids by mouth for six weeks after injury on account of perforation of trachea and esophagus. Was supported by nutritive enemata during this period. Orthopnea for about two months, and dyspnea since then on exertion. Pain at times in right chest and back. Radiograph taken March, 1901, shows the ball lying at junction of third and fourth dorsal vertebræ and just to the right of the median line, apparently resting on the vertebra. Remote effects: Dyspnea on exertion; pain in chest and back; difficult deglutition, the food often appearing to lodge at site of wound. Tracheal tug present, but no other signs of aneurism accompany it, and it is probably due to adhesions formed along the course of the bullet.

It is in wounds of the lungs especially that one observes the humane characters of the modern bullet, which are wholly explained by the factors already mentioned; namely, sectional area and resistance. An undeformed bullet of .30 caliber makes a wound about the size of a lead pencil, and since the resistance encountered in the lung is practically *nil,* the destructive effects are very slight. Wounds of the lungs under these circumstances almost invariably recover except in those instances where the missile cuts through one of the larger vessels.

The loss of life in battle from penetrating gunshot wounds of the chest, inflicted by bullets of the larger calibers, has been very great, varying between 62.5 per cent. in our Civil War and 91.6 per cent. among the French troops in the Crimea. When we consider the subsequent mortality from secondary involvements like pneumonia, pleuritis, phthisis, etc., the mortality in the end is hardly less than that recorded from penetrating wounds of the head and spine. Of 198 cases of penetrating gunshot wounds of the chest (reported by the Surgeon-General of our army) which occurred during the years 1898 and 1899 in Cuba, Porto Rico, the Philippines, etc., 55 (27 per cent.) ended fatally. As to the results in South Africa, where the experience of the medical department was much larger, Makin states that "wounds of the chest furnished the most hopeful class of the whole series of trunk or visceral injuries. Cases of wounds of the heart and great vessels afforded the only exceptions to an almost universally favorable course, both as regards life and the non-occurrence of serious after-effects." Notwithstanding the favorable outcome of chest-wounds, as inflicted by the new armament, it should be borne in mind that the clinical history of cases in military practice is especially apt to be accompanied by complications like hemothorax and pyothorax. The apparently trivial nature of the wound, in the majority of those who lived to reach the field-hospitals, was exemplified at the Reserve Divisional Hospital at Siboney in men who, though shot through and through a few days before, could be kept prone in bed only by the most watchful care. Doubtless a number of the sequelæ observed afterwards in these men* were due to imprudence on the part of the patients in disregarding the instructions to keep quiet. Bearing upon military practice, it may be stated that Makin observed in South Africa, in the early part of the campaign when the patients were treated near the place of battle, and required but little subsequent transportation, that hemothorax occurred only in probably 30 per cent. of cases. Later on, when it became necessary to transport the wounded for much greater distances—requiring in some instances journeys of two or even three days—at least 90 per cent. of these patients "suffered with hemothorax of varying degrees of severity." In referring to the only case of empyema seen by him during the whole campaign, he informs us that it followed the removal of a lodged bullet, and that the additional wound doubtless proved the source of infection because of the difficulty of maintaining asepsis in wounds treated under such questionable surroundings as one encounters in the field. The moral which he draws from the circumstance is one that accords with our own experience: "Remove no lodged missiles in the field save for exceptionally good reasons."

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* Greenleaf, "Gunshot Wounds of the Lungs."

Abdomen.—Penetrating gunshot wounds of the abdomen, under the expectant plan of treatment, were the most fatal of the regional wounds in both military and civil practice; the mortality ranging between 95 and 99 per cent. Under a wise selection of cases and the employment of expert technic in operating, the statistics of fatality have been reduced by nearly one-half in civil hospitals, while on account of unavoidable causes the death-rate in military practice in the field still remains very high. In civil hospitals, where one finds all the modern conveniences and comforts to promote the well-being of the wounded, and where the surgeon, almost from the moment of the receipt of the injury, holds absolute sway over his surroundings, the mortality, as shown by Grant's statistics of operative cases, amounts to 52.5 per cent. in a series of 253 cases. Morton of Philadelphia reports 138 deaths after operation, or a mortality of 58.9 per cent., out of 234 cases collected from various sources in this country and Europe. Coley's statistics show a death-rate of 53.8 per cent. in a series of 39 cases operated upon during the first 12 hours after injury; and a mortality of 77.2 per cent. in 22 cases operated upon at a later period. In military practice in the conditions that obtain in active campaign, the mortality, as already stated, has been very large, the death-rate in the Crimea for the French and English troops being respectively 91.7 per cent. and 92.6 per cent. In our Civil War the fatality reached 90 per cent. When we remember that in many of those who are thus reported to have recovered the abdomen was in reality not perforated, we are forced to the conclusion that the high mortality given would probably have to be made still higher if it had been possible to consider only perforated cases.

The encouraging results obtained in civil hospitals gave the military surgeon hope that his results might be nearly as good. This hope, as the sequel shows, was not realized. Of 116 cases reported in the Annual Report of the Surgeon-General of the Army for 1900—cases which occurred in the Spanish-American war and during the Philippine insurrection—there were 81 deaths, or a mortality of 70 per cent. The evidence of perforation was doubtless based upon the position of the apertures and the course of the ball in a straight line between these. It is fair to state that of the 30 per cent. who recovered the large majority sustained no injury to the intestine. The experiences of Makin in South Africa lead him to the belief that perforating wounds of the small intestine are very fatal—"every patient in whom the condition was certainly diagnosed died." The following table includes only those cases which survived longer than 24 hours, upon six of whom he operated. It will be seen that the prognosis varies largely with the anatomical structure involved in the perforation. It should be noted that of the 10 cases of possible perforation of the small intestine there were 10 recoveries, a fact that goes to show that in all probability few if any of them were perforated cases at all; also that of the five cases of perforation of the "small intestine certain" death was the result in every instance. As far as prognosis is concerned, a gunshot wound of the small intestine, without operative interference, is as fatal to-day on the field of battle as it was during the Crimean War. Some rare cases of recovery with few symptoms, cited by Makin, make it difficult to conceive how a projectile could plough its way through the abdomen from one flank to the other without cutting the intestine. Several cases of this kind were seen at Siboney from the line near Santiago, and they go to show that the small-caliber bullet is likely at times to traverse the intestinal area without inflicting injury of a fatal kind. Aside from the small sectional area of the bullet which would favor such an occurrence, it has been suggested that the intestinal lesion is apt to be minimized by fasting. The men before Santiago had been on scant rations for one week, and the remarkable recoveries among abdominal wounds were at the time attributed to the empty condition of the alimentary canal. We know by experimentation that the reverse condition would have been highly favorable to the infliction of extensive lesions. As already stated, resistance among the three factors which conduce to destructive effects —the other two being velocity and sectional area of the projectile—is not confined to the compact substance of bone. The most extensive explosive

TABLE

Viscus Wounded	Number of cases	Localized secondary suppuration occurred	Recovered	Died
Stomach certain	2	–	1	1
Stomach possible	1	–	1	–
Small intestine certain	5	–	–	5
Small intestine possible	10	–	10	-
Large intestine certain	8	4	4	4
Large intestine possible	4	–	4	–
Bladder certain	3	3	1	2
Bladder possible	1	–	1	–
Liver	6	–	6	–
Kidneys	6	–	4	2
Spleen	3	–	2	1
Total	49	7	34	15

effects are met in cavities filled with fluid or semifluid contents. Griffith's experiments upon dogs on the Fort Leavenworth range demonstrate that when all the conditions are favorable the intestines will show rents varying from two to eight inches in their continuity. Men on the field of battle so wounded do not live to reach the relief stations; they die where they fall, as a rule, from shock and internal hemorrhage.

In gunshot wounds of the abdomen the vital question at issue is whether or not the wound is perforating in kind. If the evidence points with reasonable clearness to a wound of the former character the treatment resolves itself into a celiotomy, either for the purpose of exploration or for remedying the injury done to the abdominal organs. Whether surgical aid of the latter kind is to be practised will largely depend on the confidence and skill of the operator and the nature of the environment. As stated before, owing to the unpropitious character of the latter, laparotomy on the field or in field hospitals in war has thus far been limited, and the results, when the practice has been carried out, have been anything but encouraging. Of the three laparotomies done at one of the advanced hospitals before Santiago, the mortality was one hundred per cent. In order to accomplish successful abdominal work in war it will be necessary to use a great deal of forethought, so that the operators may not be hampered by the endless difficulties that are apt to occur in active campaign. It is possible to conceive of a field-hospital so thoroughly equipped with material and personnel, and so favored by the condition of the weather, that in it a laparotomy may be performed with about the same safety as is experienced in a civil or fixed hospital. So far, the idea of establishing such a hospital has not been seriously acted upon. The subject is replete with possibilities.

MEDICAL TREATMENT OF CHOLELITHIASIS.*

BY R. ALEXANDER BATE, A.B., M.D.,
OF LOUISVILLE, KY.
ADJUNCT PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE AND LECTURER ON HYGIENE, HOSPITAL COLLEGE OF MEDICINE, LOUISVILLE, KENTUCKY.

CHOLELITHIASIS embraces the formation and presence of biliary concretions. Its medicinal treatment is based upon the rationale of its etiology and pathology. Gall-stones are chiefly composed of cholesterin. Cholesterin is a product of retrograde metamorphosis, which is held in solution in the tissues by lecithin. Its solution in the circulating fluids of the body is maintained by the alkaline salts and the compounds of potassium and sodium with the fatty acids. (Lyman.)

So long as the bile remains alkaline the cholesterin is held in solution. If calcium be added to bile it unites with the fatty and biliary acids to form insoluble salts no longer capable of holding cholesterin in solution. An excess of organic acids in the liquids and solids of the body causes a liberation of basic calcium from the anatomical structures in which this substance is contained. Calcium thus put into circulation precipitates cholesterin from the bile.

An excess of organic acids in the system is the cause of the so-called "arthritic diathesis" or the "acid dyscrasia" described by French writers, Consequently biliary calculi are most common after the age of thirty-five years, that is, after changes dependent upon the diathesis have begun.

Females are affected three times as often as males. Naunyn states that 25 per cent. of all women have cholelithiasis, and that 90 per cent. of these have borne children. Pregnancy, menstruation, tight-lacing, sedentary habits and the increased frequency of osteomalacia among females render them more liable to the disease. Pregnancy and menstruation favor the increase of organic acids in the system. Tight-lacing causes stagnation of the bile. Sedentary habits lessen oxidation, and in osteomalacia calcium salts are put into the circulation. Cancer of the gall-bladder, typhoid fever, appendicitis, and disorders attended with intestinal sepsis are among the frequent causes of biliary calculi. Colloid material, the products of inflammation and bacteria present in the bile, not only favor chemical changes, but furnish a nucleus for the deposit of cholesterin. Recently it has been shown that the bile is so feebly antiseptic that certain bacteria may live in the gall-bladder a considerable length of time.

Gall-stones vary in number from 1,000 to 8,000, and they vary in size from a pin-head to a goose-egg. Their formation may take place in the hepatic radicals or in the gall-bladder.

Symptoms result only from irritation or obstruction by the calculi. The greatest pain is supposed to result from the spasmodic contraction of the muscular structures upon the stone as it passes through the cystic duct. The obstructing stone usually lies at the termination of the common duct within the diverticulum of Vater.

The formation of a calculus is likely to be followed by the formation of other calculi, either immediately or at subsequent periods. Thus we find that the indications for the medicinal treatment of cholelithiasis are: (1) The prevention of the formation of calculi, and (2) the control of the symptoms and the expulsion of the calculi when formed.

Prophylaxis is applicable to those predisposed, but in whom no calculi have been formed, and to those from whom calculi have been removed either by surgical or medicinal means. Prophylactic treatment of the acid dyscrasia, or the prevention of an excess of organic acids in the system; care of the menstruating and pregnant female especially after the thirty-fifth year; the removal of all things tending to produce stagnation of the bile; the use of all means to promote its fluidity and outflow; the use of agents promoting biliary and intestinal antisepsis, and the use of lecithin or other solvents of cholesterin in those from whom gall-stones have been removed.

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* Read before the Kentucky State Medical Society, at Paducah, May 7 1902.

An excess of organic acids in the system must be prevented by increasing oxidation in every way, by out-of-door exercise, bathing, massage, etc., and a diet requiring as little oxygen as possible and free from calcium salts. For this reason no red meats, tea, coffee, chocolate, tomatoes, strawberries, bananas, limestone, or carbonated water should be taken. But the lentils should especially be used, because they not only require less oxygen for their assimilation, but even carry oxygen with them. The oxygenated waters, instead of those charged with carbonic acid gas, should be used.

The salicylates promote the fluidity of the bile, and together with the terebinthina group, perhaps constitute the safest antiseptic. Probably the best antiseptic measures in the gall-bladder are those that prevent biliary stasis and promote normal gall-bladder activity. Local massage is to be especially recommended. In typhoid fever, appendicitis and other disorders attended with intestinal sepsis the terebinthina group perhaps furnishes the best prophylactic. They lessen both biliary and intestinal sepsis, besides exercising a somewhat solvent action upon biliary concretions.

The treatment of the attack embraces measures for the relief of pain, as well as those that facilitate the expulsion of gall-stones. It is estimated that less than 50 per cent. of individuals affected with gall-stones ever have clinical manifestations. Gall-stone colic is generally conceded to be due to the contraction of the muscular structure upon a calculus as it is forced into the cystic duct. So that in all instances of cholelithiasis attended with pain we are reasonably sure the offending calculus is small enough to become engaged in the duct itself. Therefore we have positive indications for medicinal treatment.

The first steps in the treatment of the attack must of course be for the control of pain. Anodynes and anesthetics have been used. Coal-tar derivatives, opium alkaloids, ether and chloroform have served. Perhaps the speediest relief with the least undesired after-effect is obtained by the hypodermatic use of heroin hydro-chloride in combination with atropine. Heroin is more analgesic and less constipating than morphine. Just as when morphine is used small doses of heroin should be frequently repeated, lest the stone pass suddenly and a narcotic rather than an analgesic effect result.

The agents assisting expulsion of the calculi may be divided into different classes. The action of one class is due to influence upon the tissues of the biliary tract. The action of another class is due to influence upon the biliary concretion itself. Those that act upon the tissues perhaps exert a local sedative action, lessening muscular rigidity, yet toning up muscular force. A result is obtained analogous to that of cocaine upon the uretha. A spasmodically contracted urethra may resist the passage of the smallest metallic sound when cold, yet if cocaine heat or other local sedative be applied a sound of average size may easily pass.

The drugs belonging to the first class are dioscorea villosa, carduus marianus, chionanthus virginica and probably most cholagogues. Those of the second class exercise a solvent effect upon the different component parts of the calculi, and though a solution may not be effected, assist in the reduction and molding of the calculi. The drugs representing this second class are: lecithin, olive oil, glycerin, the salicylates, ether, chloroform, turpentine, animal soap, nitro-muriatic acid, the succinate of the peroxide of iron, valerianate of amyl, toluylendiamin, pichi, Carlsbad salts and the alkalis in general. Lecithin is perhaps the most active solvent of cholesterin known. The action of the various oils are dependent upon the lecithin they contain. At present olive-oil affords the chief source for its administration. However, a large manufacturing establishment, in reply to a letter, has informed me they hope soon to place pure lecithin upon the market.

Gall-stones composed of cholesterin when raised to the temperature of the body may often be molded like putty into any form according to pressure. If lecithin does not put the cholesterin of the gall-stone into solution, it may so soften it as to permit this molding. The succinate of the peroxide of iron, hydrated, contains a large proportion of nascent oxygen, so that it is useful both as a prophylactic and an assistant in expelling calculi. Pichi dissolves the mucus and products of inflammation that bind together the cholesterin and calcareous matter.

Thus we see that medicinal treatment instituted for the removal of the calculi, should embrace the dietetic and hygienic measures suggested usder prophylactic treatment; together with the combined use of both classes of drugs suggested as facilitating the expulsion of biliary concretions. In addition to the lentils and oxygenated waters mentioned, eggs, milk, especially buttermilk, whole wheat and corn breads complete the requirements of a diet list. They furnish oxygen, phosphates and lescithin. Such local measures as massage, counterirritants—especially the application of the salicylate of methyl—and the use of either hot or cold enemata are of some service.

The internal medication should embrace drugs that favorably modify biliary secretion, that relax the spasmodically contracted ducts, lend tone to normal muscular contractions, and assist in molding calculi when possible, together with those possessing a solvent action upon the calculi. Therefore the ideal prescription would contain lecithin as solvent for the cholesterin, pichi to dissolve the matrix of mucus, and dioscorea to assist expulsion.

Perhaps the greatest number of cases reported where gall-stones have been obtained have been due to olive-oil, the succinate of the peroxide of iron is an old favorite; lately valerianate of amyl and toluylendiamin have been favorably reported. Personally the use of the salicylates, dioscorea and olive-oil have served best.

A unique case occurring in the practice of Dr. E. S. Swain, of Smithfield, may be found of interest. This case has been reported and the specimens exhibited at the Louisville Pathological Society. Later the specimens were sent to Dr. Wm. Rodman of Philadelphia.

The use of dioscorea and olive-oil had been suggested in this case, which proved to be both biliary calculi and abscess. After several days' exhibition of the two drugs about 30 hollow gall-stones were passed. The supposition was that the lecithin of the olive-oil had dissolved out the cholesterin of the calculi, leaving the shell composed of biliary and lime salts.

In the Surgical Section of the American Medical Association in 1900 some few surgeons took the position that a diagnosis of gall-stones was sufficient indication for immediate surgical intervention. However, many surgeons echo the sentiments of A. Chauffard (Year Book of Medicine, 1902), who says: "Surgical treatment of hepatic colic is too frequently undertaken before medicinal treatment has been properly tested." Chauffard believes that the relief obtained by surgical means is likely to be only temporary, and that the factors which previously caused the formation of calculi still remain present.

The intention of this paper is to urge the use of prophylactic measures in those predisposed by diathesis, sex, age, occupation, or intestinal or hepatic disorders favoring biliary stasis and sepsis, and in those previously affected with biliary calculi. It is not claimed that all cases of cholelithiasis can be cured by medicinal means. It is desired to emphasize the fact that internal medication either alone or combined with surgical measures must be instituted before a radical cure can result.

In support of this it may be mentioned that only a very small proportion of cases of cholelithiasis ever require surgical intervention. And as mentioned by Chauffard, the etiological factors remain, and gall-stones may recur after surgical treatment. Furthermore, any inflammatory process or any foreign matter in the gall-bladder favors the formation of calculi. A case is reported where a secondary operation showed that a portion of a stitch, introduced at the first operation, formed the nucleus of the subsequent calculus.

Fiedler states that symptoms of gall-stones occur after operative procedures in 15 per cent. of cases.

Keay shows that one in every seven cases operated upon by Kehr underwent a second operation. Again the very occurrence of pain suggests that the calculus is small enough to become engaged in the duct, and therefore likely to be modified by medicinal agents.

However, it may be said, surgery and medicine are complemental and should be employed in all cases in which there is any opportunity offered. Neither is independent of the other, but combined they accord a scientific and perfect treatment to cholelithiasis.

MEDICAL PROGRESS.

PHYSIOLOGY.

The Proteolytic Enzyme of the Spleen.—The products of the activity in an acid medium of the proteolytic enzyme found in cell-juices from the spleen of oxen are, according to J. B. Leathes (Jour. Phys., Sept. 12, 1902), the same as those formed by trypsin in alkaline media or those formed by the hydrolytic action of mineral acids. As to the physiological significance of such an enzyme, should those found in the cells of other organs be similar, as is probable, the difference that the reaction most favorable to its activity is an acid one, cannot be said to exclude the possibility of such significance till more is known of the balance of molecules within the cell. There seem, for instance, to be grounds for the view suggested by Ehrlich that the reaction of the nucleus may be acid. Granted, however, conditions favorable for its action, the fact that the products formed are identical with those formed in the extracellular digestion of proteid foods, suggests that intracellular proteid catabolism is essentially a reversal of what one must infer from his knowledge of the digestion of foods to be the course of intracellular proteid anabolism. The same fact possibly throws light on the familiar phenomenon of starvation, where the analysis of proteid in muscles and certain viscera, the spleen included, provides the heart and nervous system with identical substitutes for the products of the digestion of proteid foods.

Results of the Resection of the Cervical Sympathetic.—Easily made and without any danger, resection of the sympathetic nerve in the neck produces phenomena of two kinds, permanent and transient, according to E. Jennesco and N. Floresco (Jour. Phys. et Pathol. gen., Sept. 15, 1902). It causes the following: Myosis and ptosis (in cases of epilepsy; vascular congestion of the palpebral and bulbar conjunctiva of the gums and above all, of the brain, which persists for three and a half years after extirpation. The hypotonia, the suppression of perspiration after the injection of pilocarpine, the difficulty in mastication and swallowing, the influence on nutrition and on the general hyperesthesia, are phenomena that tend to disappear and do so at different times. There are no trophic disturbances following sympathectomy. The physical or intellectual development of the patient, whatever be his age, is influenced in no way.

New Experiments on the Resuscitation of the Human Heart.—Of considerable practical interest are the observations of A. Kuliabko (C'blatt Phys., Sept. 27, 1902), who succeeded in bringing back to pulsation the heart of a three-months-old boy who had died from a double pneumonia. Twenty hours after death the heart was cut out of the body, with no special care taken to the laboratory, and following the customary Langendorff method injected through the aorta with warm and oxygen-saturated Locke's solution. For a long time the heart remained motionless, but after the lapse of twenty minutes, weak and slow rhythmical contractions of the auricle began and later extended to the ventricle. At last the entire heart began to pulsate distinctly and worked regularly for an hour. The author repeated this experiment on other hearts with similar results. Even after thirty hours he could produce distinct contractions in the human heart in spite of the voluminous coagula which had already formed.

The Mechanism of Pancreatic Secretion.—The secretion of pancreatic juice, according to W. M. Bayliss and E. H. Starling (Jour. Phys., Sept. 12, 1902) is normally evoked by the entrance of acid chyme into the duodenum, and is proportional to the amount of acid entering. This secretion does not depend on a nervous reflex and occurs when all the nerve connections of the intestines are destroyed. The contact of the acid with the epithelial cells of the duodenum causes in them the production of a body, "secretin," which is absorbed from the cells by the blood current and is carried to the pancreas where it acts as a specific stimulus to the pancreatic cells, exciting a secretion of pancreatic juice proportional to the amount of secretion present. The latter body is produced probably by a process of hydrolysis from a precurser present in the cells, which is insoluble in water and alkalis and is not destroyed by boiling alcohol. Secretin is not a ferment. It withstands boiling in acid, neutral and alkaline solutions, but is easily destroyed by active pancreatic juice or by oxidizing agents. It is not precipitated from its watery solution by tannic acid, alcohol or ether. It is destroyed by most metallic salts. It is slightly diffusible through parchment paper. The pancreatic juice obtained by the injection of secretin has no action on proteids until "enterokinase," one of the constituents of the succus entericus, is added. It acts on starch and to some extent on fats, the action on the latter being increased by the addition of succus entericus. It is, in fact, normal pancreatic juice. Secretin rapidly disappears from the tissues but cannot be detected in any of the secretions. It is apparently not absorbed from the lumen of the intestine. It is not possible to obtain a body resembling secretin from any tissues of the body other than the mucous membrane of the duodenum and jejunum. Secretin solutions cause some increase in the secretion of bile. They have no action on any other glandular secretion. Acid extracts of the mucous membrane normally contain a body which causes a fall of blood-pressure. This body is not secretin, and the latter may be prepared free from the depressor substance by acting on desquamated epithelial cells with acid. The authors in the course of this research discovered some evidence of a specific localized action of the vasodilator substance which may be extracted from various tissues. The products of metabolism of certain tissues would be found to act as vasodilators only for certain tissues in functional relationship to those in which they arise, or at all events would act to a greater degree on those tissues than on the rest of the body in general.

Oxygen and the Respiration of Muscle.—A former account of the survival respiration of amphibian muscle in an atmosphere of nitrogen, has, according to W. M. Fletcher (Jour. Phys., Sept. 12, 1902), been confirmed and extended by the use of a more convenient method. In particular it has been shown that the introductory processes of rigor which are marked by a steady output of carbonic acid, are partially incomplete in the absence of oxygen. The rate of carbonic acid output characteristic of the gradual development of rigor in air is diminished by about 30 per cent. in an atmosphere of oxygen. It has been found that the normal rate of carbonic acid discharge during the rigor period for a muscle in air is always largely increased in an atmosphere of oxygen, the increment ranging from 80 to 300 per cent.

Human Intestinal Juice.—That the succus entericus does not in itself possess the power to digest albumin or fat, is the opinion of H. J. Hamburger and E. Hekina (Jour. Phys. et Pathol. gen., Sept. 15, 1902). It digests starch but very feebly. The intestinal juice whose influence on the alimentary principles is so small, presents on the contrary a great activity when it acts conjointly with the pancreatic juice. The juice expressed from a fresh pancreas, placed in contact with coagulated egg-albumen, does not digest it. But if the succus entericus be mixed with the pancreatic juice, one notices an energetic digestion of the albumen. The explanation of this phenomenon is that the proteolytic ferment of the pancreas does not exist as such in the juice, but is under the form of a zymogen, in itself inactive. The succus entericus disengages the trypsin from the zymogen. This property is lost by boiling the succus entericus or by heating it at 67 degrees for two hours. This active material of the succus entericus is considered by Pavlow a ferment and called "enterokinase." The authors, however, disagree with this opinion and consider this substance, not a ferment, but a compound provoking the formation of enzyme from zymogen; they think, "zymolysine" is a better term. This substance also acts similarly on gelatin. The succus entericus does not exert the slightest influence on the two other pancreatic ferments, diastase or lipase. The authors also found in the succus entericus "erepsine, already recently discovered by O. Cohnheim in the intestinal mucosa of the dog. This substance possesses to a high degree the power of transforming hemialbumose into other compounds not yet clearly defined. Zymolysine and erepsine are two different substances. The action of the latter is abolished by heating the intestinal juice at 59 degrees for two hours, while that of the former persists almost entirely. The secretion of the intestinal juice of man is strongly excited by the local mechanical irritation of the intestinal mucosa.

The Effects of Alcohol on Muscle.—It is surprising that in spite of the larger number of studies on the physiological effects of alcohol, few observations on the effects of this drug on isolated muscle have been made. Very interesting results have been obtained by F. S. Lee and W. Salant (Am. Jour. Phys., Oct. 1, 1902) in a research on the action of ethyl alcohol on frog's muscle. In small quantity ethyl alcohol does not appear to exert any action on frog's muscle. In medium quantities it exerts a favorable action, which is characterized by a quickening of the contraction, a quickening of the relaxation, the power of making a larger number of contractions and of performing a larger amount of work in a given time, an increase in the working time, or in other words a delay of fatigue, and the power of making a larger number of contractions and of doing a larger amount of work before exhaustion sets in. This action is exerted directly upon the muscle protoplasm itself and not on the musculo-nervous tissue. In large amounts ethyl alcohol exerts on frog's muscle an unfavorable action which is in general the reverse of that caused by medium quantities of the drug; and is characterized by a decrease in the extent of the contractions, a decrease in the working time, or in other words, a hastening of fatigue, and in the power of making a smaller number of contractions and of doing a smaller amount of work before exhaustion sets in. The authors have discovered a stage in the action of alcohol which is altogether favorable to the activity of a particular kind of protoplasm, and suggest that the action of alcohol on other kinds of protoplasm ought to be very carefully examined. They believe that it is not improbable that studies of other narcotics along similar lines might be advantageously followed. They would warn others not to assume that the same results are true of the human being, for a drug may have entirely opposite modes of action in different species of animals, as pharmacology abundantly proves.

The Frontal Lobes and Sensory-motor Habits.—In a research undertaken to determine the relation of the so-called association-areas of the cerebrum to simple mental processes, S. I. Franz (Am. Jour. Phys., Oct. 1, 1902) arrived at the following results: Cats may be taught simple sensory-motor associations in from two to five days. Memory for these habits persists normally for a period of from seven to eight weeks. After a bilateral lesion in the frontal lobe the habits are lost.

This effect cannot be explained as due to shock, for other brain lesions are not followed by loss of habits. Unilateral lesions of the frontal areas are usually followed by a partial loss or rather a slowing of the association process. Habits once lost after removal of the frontal lobes may be relearned. After a second operation they are again lost and may be regained a second time. Only newly-formed habits are lost after such lesions. Inherited and long-standing habits seem to be retained. The emotional condition of the animal is practically the same after as before the operation. Emaciation and liability to disease were noted in all animals in which the frontal lobes were extirpated.

Relative Resorptive Power of Large and Small Intestines.—The recent experiments of F. REACH (Arch. ges. Phys., Bd. 86, S. 247) concerning the absorption of nourishing fluids by the intestines have clinical as well as scientific interest. In general, as might have been supposed, the activity of the small intestine was greater than that of the large intestine. Simple solutions of gelatin were less eagerly taken up by the lower bowel than were similar preparations of albumose. If, however, NaCl. (0.7 per cent.) was added to the gelatin solution its absorption was accelerated; whereas the same per cent. of salt, added to albumose solution, caused irritation of the mucous membrane and retarded absorption. In the small intestine it was found that gelatin solutions were somewhat more readily absorbed than were those of albumose. Here sodium chloride was inert if added to the former solution, but again produced irritation of the mucous membrane when added to solutions of albumose. The practical deduction from these experiments is that the addition of gelatin and sodium chloride to nutritive enemata, say in the form of a soup rich in gelatin, might profitably be utilized in some cases as a substitute for the commonly employed "peptone" preparations.

Effect of Fatigue upon the Spinal Cord.—In the course of an investigation as to the effect of fatigue upon the various organs of the body, G. GUERRINI (Arch. Ital. Biol., Vol. XXXVII, fasc. II, 1902) has found that the structural changes in the spinal cord of animals subjected to fatigue-tests have no preferred topographical site; that the changes seen are not peculiar to the fatigued condition, and that they are not so great as are the changes induced in the cerebral cortex through fatigue. The general aspect of the nerve-cells presented no constant type, their outline being either well-defined, indistinct or sinuous. Rarely were the cells atrophied. The protoplasmic prolongations were practically normal. The nucleus was found sometimes turgid, homogeneous, displaced, atrophied, or altogether absent. Chromatolysis was present in some instances. All cells possessed a nucleolus, though this appeared at times swollen, deformed, or otherwise changed.

The Physiological Action of a Few Constituents of Hops.—The physiological action of a lupulinic acid, according to K. FARKAS (Pflüger's Arch., Sept. 18, 1902), resembles in many respects (excitation of the inhibitory centers of the lungs and heart, paralysis of respiration, and later paralysis of the heart) the B. acid already described by Dreser; but the former attacks the central nervous system less, and the peripheral musculatur more energetically than the latter. Hops contain a substance soluble in water, which in cold-blooded animals is a powerful cardiac poison, but in warm-blooded animals is active in this respect only when introduced directly into the veins. Like curare, these substances are also ineffective when introduced into the stomach; in warm-blooded animals they are also ineffective when introduced subcutaneously, and this, like the rapid disappearance of the manifestations when non-fatal intravenous injections are used, indicates that the poisons are rapidly destroyed in the tissues. From these facts the conclusion must be drawn that the toxic constituents of hops should not be considered in discussing the action of beer, in which they have been almost wholly transformed into non-poisonous derivatives.

The Blood in High Altitudes.—A large number of observations made upon individuals at great altitudes, with respect to the various changes that take place in the constituents and properties of the blood, are reviewed at length by H. J. VAN VOORNVELD (Pflüger's Arch., Sept. 18, 1902). The most marked change noticed in the blood is a polyerythrocythemia. At a distance of 1,560 meters above the sea-level, the erythrocyte-count in men was found to average 6,551,000, and in women, it was 5,804,000. The optimum in the erythrocyte-count is found in the morning. Digestion and pregnancy cause a diminution in the number of red blood-cells, while massage and a cold bath increase it. The erythrocyte-count is greatest in the newborn and decreases until puberty, remaining stationary until old age, when it decreases still further. Altitude also causes an increase in the hemoglobin content. This, however, is also subject to cyclical and other variations. It increases to the extent of seven per cent. during the night, and decreases again during the day, with the peculiarity that during each period of digestion there is a greater diminution. Pregnancy causes a decrease in the hemoglobin. The increase of hemoglobin brought about by a stay in the mountains is at first relatively not so great as the increase in the erythrocytes. Both the hemoglobin and erythrocytes return gradually to the normal on the return to the sea-level. The specific gravity of the blood rises with the increase in altitude. Normally the specific gravity for men is 1,055; for women, 1,053.5, and for children, 1,051.2. Lower in the morning than in the evening, it also sinks during the period of digestion. In anemia it usually falls. There is almost a constant relationship between the hemoglobin content and the specific gravity, which is not surprising, since the specific gravity is to no small extent dependent upon the hemoglobin content, 100 grams of blood containing about 14 grams of hemoglobin. As regards the morphological changes in the red blood-cells, it has been found that microcytes and poikilocytes are present in the blood at high altitudes. The significance of these changes has not yet been determined. In general it may be said that poikilocytosis occurs whenever important changes are taking place in the blood. In order to understand the nature of these changes it is necessary to review some facts concerning the effects of high altitudes upon various physiological processes. If the effects of climbing and fatigue are disregarded no important change in the rate and depth of respiration takes place. On the other hand, an increase in the pulse-rate occurs. There is a constant increase in the respiratory coefficient. This is obtained by dividing the number of c.c. of carbon dioxide exhaled in one minute by the number of c.c. of oxygen inhaled in that time. In the mountains one inhales from eight to 20 per cent. more oxygen than at the sea-level, but proportionately more carbon dioxide is got rid of. At high altitudes less nitrogen is eliminated than at ordinary levels, whereas the non-nitrogenous bodies, particularly the carbohydrates, are consumed to a greater degree. In connection with this subject it is necessary to note that in the European mountains at altitudes of 4,000 meters and over, there appears in certain individuals the so-called "mountain-sickness," which manifests itself in insomnia, fatigue, nausea, anorexia, dyspnea, and acceleration of the pulse. A predisposition to this disease is necessary, and this predisposition seems to be awakened by fatigue. In returning to the original question, namely, what different climatological factors occasion the known changes in the blood in the mountains, the author believes they are to be attributed to the lowering of the pressure of the air as found at high altitudes. The manner in which this operates in increasing the number of erythrocytes is as follows: These bodies are formed in postembryonic life in the red bone-marrow, from which they are partly transported for reserve to other locations (spleen? liver-capillaries?) either as finished erythrocytes or as their precursors (erythroblasts, megaloblasts). When required for use, and also when the oxygen-pressure is diminished, the erythrocytes are sent into the circulation, while the loss in the reserve supply is made up by a new formation in the bone-marrow and also in the circulating blood. Whether the diminished oxygen-pressure is the only cause of polyerythrocythemia or not is uncertain; yet it is quite possible that the modified metabolism at high altitudes causes the formation of chemical products, which may exert a chemotactic influence, bringing into the circulation or causing the formation of a greater number of red blood cells. In many forms of heart-disease in which the circulation of the blood and consequently the gas-diffusion are disturbed, there occur the same compensatory changes as in high altitudes; for generally cases of heart disease present an increase of erythrocytes and of hemoglobin, the former reaching from 8 to 9 millions. It has been proved that carbon dioxide possesses the property of causing a swelling of the red blood-cells; therefore the accumulation of this substance in the blood serves as a stimulus to increase the entire respiratory surface of the blood, and in this way to promote the exchange of gases. Likewise dyspnea causes an increase in the red blood-cells and hemoglobin, and the same effort toward the production of an equilibrium is observed in phosphorus-poisoning. These examples of the adaptation of the blood to the environment are analogous to the observation made by Humboldt upon the inhabitants of the Andes, in whom an extraordinary chest-capacity is the result of the adaptation of countless generations of individuals to the rarefied air of the high altitude. A very interesting example of the adaptation of the blood is seen in cerebral hemorrhage, when an increase in the specific gravity of the blood as well as of the red blood-cells occurs. This is but another instance of the same adaptive capacity of the blood, which to a high degree possesses the power by rapid and substantial changes to adapt the body to the modification in the environment, whether in or outside of the body, with or without the presence of great physical stress. This capacity of the blood is one of the nicest and most interesting regulatory mechanisms with which physiology is acquainted.

Fate of Oxalic Acid in the Body.—In the consideration of this question A. MONTOURI (Arch. Ital. Biol., Vol. XXXVII, fasc. III, 1902) directs attention to the importance of the liver in the modification of the various substances introduced into the body, and gives the outcome of recent experimental study of the elimination of oxalic acid through the urine, after injection of that acid into a branch of the portal vein and into peripheral veins. The author proceeded as follows: After a period of exclusive milk diet, to ensure entire absence of oxalic acid from the urine, a small quantity of neutral oxalate of potassium dissolved in an isotonic sodium-chloride solution was injected into the external jugular vein of a rabbit, and the amount of oxalic acid eliminated by the urine during 24 hours was carefully estimated. Subsequently the same animal received, under exactly the same conditions, a like quantity of the solution into one of the small mesenteric veins, with the result that almost the entire amount of acid injected in the first instance appeared in the urine, while practically none of that introduced into the portal branch was excreted by the urine. Further experiments with increasing doses of oxalic acid demonstrated the limitation of the liver's power to prevent appearance of the acid in the urine. Proof that oxalic acid thus injected was not simply stored up in the liver, was afforded by placing in the thermostal liver-sections of a dog killed by bleeding, to which was added the dog's own blood, defibrinated, and 10 per cent. of oxalic acid. But 30 per cent. of the acid was recovered after withdrawal from the thermostat, while the same mixture, not subjected to digestion in the thermostat, yielded 90 per cent. of the original amount of acid. Attempts to determine the products of oxalic-acid decomposition by the liver did not meet with unqualified success, though a certain relation between ingestion of oxalic acid and elimination of uric acid was established. Further, that uric acid is formed by the liver in the presence of oxalic acid was shown by producing artificial circulation through the isolated liver of defibrinated blood to which neutral potassium oxalate was added. Uric acid was found in considerable quantity in the blood so treated, as well as in experiments with defibrinated blood and oxalic acid subjected to digestion in the thermostat in the presence of liver-sections. The fact that the liver is capable, within certain limits, of preventing the passage of oxalic acid into the urine explains, in the author's belief, the conflicting opinions as to the occurrence of alimentary oxaluria, which condition should be considered in its relation to the liver's integrity and to the amount of oxalic acid ingested.

Physiology of the Caudate Nucleus.—A contribution to the knowledge of this subject has been made by D. LO MONACO and G. BELLANOVA (Rif. Med., Oct. 8 and 9, 1902) through extirpation of the head of the caudate nucleus. Dogs subjected to this operation upon the right side developed a partial paralysis of the left side of the body with hyperesthesia and loss of the muscular sense. The authors challenge Sgobbo's theory that the symptoms induced by lesion of the caudate nucleus are due to compression of neighboring parts from the extravasation of blood in the ventricles, and give the findings at autopsy in the animals experimented upon, showing absence of any considerable hemorrhage. It is concluded from the work done that the caudate is a true sensory-motor ganglion and the question is discussed, whether its action depends upon the nerve elements of which it is composed or upon connection, through its radiating fibers, with the motor zone. The theory is advanced that injury of the caudate not only leads to suppression of its function but induces disturbance of the equilibrium of the motor zone, this equilibrium being reestablished after a lapse of time. This hypothesis receives at least partial confirmation from the fact that within about a month there was attenuation of paralysis in the dogs operated upon.

Iron in the Body in Health, in Leukemia and in Chlor-Anemia.—Many and varied are the opinions concerning the absorption and elimination of iron. C. BARTOLETTI (Rif. Med., Oct. 1, 2, 3, 4, 6 and 7, 1902) has studied the subject from the standpoint of its elimination by the urine, in the belief that the question of absorption can not be determined till a definite knowledge of its elimination is acquired. It was found that the amount of iron in the urine varies with the diet. In the author's experience a mixed diet caused excretion of mgr. 2.89 to 2.14 and meat diet mgr. 5.19. Daily variations in the quantity of iron eliminated were very limited, and such variations were in relation with the amount of urine passed and to some extent with its color. Hypodermatic injections of iron, in the normal individual cause increased elimination of that metal, this being observed only upon the day following injection. The quantity of iron in the urine of leukemic patients is slightly diminished, being about equal to the minimum met with in health. In chlor-anemia, the amount of iron eliminated is inferior to the normal, with noticeable variations; such variations being absolute or relative to the amount of urine voided. Injection of iron in anemic patients induces increased elimination of that substance by the urine solely during the day following injection, and the quantity of injected iron excreted is less than that eliminated after injection in the normal subject. The relation between iron in the blood and that excreted through the urine is not constant and a greater quantity of iron may be eliminated by individuals in whom the iron-content of the blood is poor than by those whose blood is rich in iron. It would therefore seem that elimination of iron by the urine is subject to certain unknown laws, and the author advances the hypothesis that such elimination depends upon the functional capacity of the kidneys for the passage of that metal or upon the temporary and variable immission into the blood of iron ordinarily stored up in such organs as the liver or spleen.

HYGIENE.

Milk as a Conveyor of Sepsis.—It is well known that milk may convey such systemic diseases as typhoid fever and tuberculosis, but records are few where it has been proved to be a source of septic sore throat. W. J. NASH (The Lancet, Oct. 18, 1902) records such a case. There was a sudden outbreak of severe septic sore throat, first appearing on June 27, and caused, according to bacteriological examination, by staphylococci and streptococci. The new cases developed as follows: June 29, 4; June 30, 15; July 1, 12; July 2, 3; July 3, 2; July 4 to 9, both inclusive, 5; making a total of 42 cases distributed throughout 22 families. In addition to these there were several mild cases of the same trouble beyond reasonable doubt, but not severe enough to drive the patients to seek medical aid. All, however, had been consuming the same milk. All of the cases investigated gave the same clinical symptoms and bacteriological findings. As to the origin of these cases, it was found that in every instance the milk was obtained from the same dairy. No case of sore throat came under notice during this period among patients drinking milk from any of the other dairies supplying milk to the author's patients. He thinks that this proves conclusively that the source of this outbreak was some infection in the milk and cream of this particular dairy. He believes that the poison in the milk was most active on June 29 and 30. On Sunday, June 30, many persons consumed cream with fruit and these included nearly all the worst cases. In some families children who drank boiled milk escaped, while parents who consumed unboiled milk or cream were attacked. One man took cream as ice-cream and had a very severe attack. On making inquiries of the dairy-farmer, the author could obtain no information as to illness among the cows or milkmen. He went over the farm, and found that the water supply for the cows was very good, the cowsheds were clean, the milk-pans were said to be scalded with boiling water, and, as far as one could judge, the arrangements were excellent.

OBSTETRICS AND GYNECOLOGY.

Chloralhydrate in Eclampsia.—Although chloralhydrate is generally considered as the best of medicinal treatment of eclampsia, it is nevertheless a fact that this remedy is only occasionally used in a rational manner and in sufficient doses. Most practitioners administer the drug by rectum. According to the experience of COMMANDEUR of Lyons (La Sem. Med., Oct. 1, 1902) this method is defective because the rectal mucosa does not always absorb the drug. A certain number of patients do not retain an injection containing it, but reject it more or less without the perception of the attendant. The remainder of the patients do not fail to show a rectal intolerance of such a degree that it is often impossible to administer more than five or six enemata containing it. For this reason this authority prefers giving this remedy by the mouth, observing, however, two important precepts, formulated originally by Foucher. Before administering the drug, the stomach should be washed out to quiet the irritability of it. Then the medicine must be dissolved in a large quantity of water, namely, 100 to 150 drams to every dram of chloral. Given in this manner it is well tolerated, fully absorbed, and may be given in large doses for some time. Commandeur has been able to give 14 grams (ʒiiss) within 40 hours. In four cases in which he has tried this method of administering the drug he has seen the pregnancy follow its course to the end in a manner which might be described as entirely exceptional.

SURGERY.

Present Position of Treatment of Prostatic Enlargement.—The merits of the various methods employed for the relief of hypertrophy of the prostate are discussed by C. M. MOULLIN (Ed. Med. Jour., Oct., 1902). It is generally agreed that the catheter should be employed when the bladder fails to expel the last two or three ounces of urine and when the night's rest is beginning to be habitually broken. If the relief obtained is satisfactory nothing more is required, though the treatment is by no means ideal, since it does not remove the cause. The point that is constantly forgotten, however, is that the enlargement does not remain stationary, since the strength of the muscular coat of the bladder is constantly diminishing and the obstruction at the neck constantly increasing. There are also many cases in which this treatment from the first is unsatisfactory, and there are others where the chief feature is not so much vesical inability or mechanical obstruction as it is irritability of the bladder, especially as seen among stout men accustomed to an active life. There is little or no residual urine, yet the patient must rise several times at night, with pain not ceasing until the bladder is empty. The prostate is not very large, yet tense and rounded, and drawing off the water aggravates matters, while measures tending to reduce the hyperemia often relieve. Other cases not benefited are those in which there is an outgrowth at the neck acting like a ball-valve, and which should be extirpated, or where there is thickening of the posterior median wall of the prostatic urethra, arising from a glandular hypertrophy of the submucous layer. In a number of cases, especially where there is hypertrophy and congestion of the lateral lobes, it may be impossible for the patient to introduce the catheter himself. There is another large class where other relief must be sought—where the frequency of catheterization has to be increased and the patient is liable to attacks of prostatic congestion; or where cystitis develops or bleeding is common. It is thus clear that catheterization is far from perfect, and that it is frequently responsible for pyelonephritis, septic prostatitis, thrombosis of the prostatic plexus, periprostatic suppuration, epididymitis, and urethritis. Turning now to prostatectomy, the cases best suited for this are those in which there is a large, irregularly grown or lobulated prostate, and in which the kidneys have not yet been seriously injured. The size of the growth is no obstacle. If the bladder is small and contracted the perineal operation is the better of the two; in other cases, especially where there is much intravesical growth, the suprapubic route is to be preferred. If general nutrition is good the age of the patient need scarcely be considered, but the operation should not be performed shortly after an attack of acute retention. It is not advisable where there is a small, hard prostate associated with atony of the bladder, or where there is septic pyelonephritis. The mortality does not exceed 10 per cent. in proper cases. The extent of bladder-control after the operation depends upon the extent to which the walls have already been injured, and when there is merely atony from disuse recovery is the rule; hence the operation should be performed early, though the amount of improvement which may take place is often surprising. Bottini's operation is chiefly useful in the early stages, when the symptoms are largely due to congestion, and in those cases in which there is a dense fibrous prostate of no great size, associated with atony of the bladder. Operations upon the testes and spermatic cords are performed with one of three objects: (1) Causing atrophy of the enlarged prostate; (2) preventing attacks of congestion; (3) very occasionally for checking the attacks of acute epididymitis which are so common after careless use of the catheter. For this latter simple ligation of the vas is sufficient. With the exception of section of the whole cord, or removal of the entire testis, other operations on these structures are of only temporary benefit, but orchidectomy no doubt in some cases gives permanent relief. Yet objections have been urged against it, such as the disappearance of sexual activity, the possibility of intellectual failure, and the comparatively high mortality. In cases in which the symptoms are due to chronic inflammation and repeated attacks of prostatitis, rather than to overgrowth, and in those in which the prostate is only moderately enlarged and intensely hard, orchidectomy does little or no good; but where uniformly enlarged, smooth, elastic and round, the obstruction was relieved. Finally, drainage of the bladder, suprapubically or through the perineum, must be mentioned as a palliative operation in advanced cases.

Postoperative Retention of Urine.—That the frequency of retention of urine is proportionate to the severity of the pelvic operation, is clear from the table of F. Taussig (Münch. med. Woch., Oct. 7, 1902), who quotes 64 per cent. after abdominal radical hysterectomy and only 1.4 per cent. in simple anterior celiotomy. It is probable that the stripping off of the tissues from the bladder is responsible for the condition, for though vascular and nutritive changes do not occur in the bladder-wall, it is likely that nervous connections are severed, and it requires some time for the remaining ganglia to adjust themselves. The unavoidable result of retention and frequent catheterization is cystitis; but the catheterization is not alone responsible for this, for bacteria can also travel from the rectum into the bladder when there is stagnation. Concerning treatment, intravesical faradization does good in a few cases; in several others the paralysis was overcome by letting the patients wait up to 30 hours. Dilatation of the urethra is sometimes followed by relief. The value of urotropni has been overestimated; it seems to inhibit the growth of bacteria, rather than to kill them and severe cases always require irrigation with some silver salt. The prognosis as a rule is good, one to four weeks being required for a cure.

Dulness in Appendicitis.—To know just when a case of appendicitis should be recommended for operation is a question which is frequently extremely difficult to settle even by those with the widest experience. H. T. Miller (Med. Rec., Oct. 18, 1902) believes that an infallible symptom lies in the presence or absence of dulness in the appendicular region. He does not mean that that sign alone is sufficient to indicate operation but when the other symptoms of appendicitis are present, dulness makes the postponement of operation extremely hazardous. In acute attacks of appendicitis, without dulness, the case should be treated conservatively, but if dulness should appear and remain, operation should always be advised and the probabilities are that if pus is not already formed the operation will find an injected appendix with a plastic exudation and threatening formation. The other conditions which give dulness in the right iliac fossa can usually be easily differentiated from appendicitis. Pain in the region of the appendix does not always mean appendicitis but localized dulness with the associated symptoms of appendicitis always does.

MEDICINE.

Morbid Conditions of the Mouth.—Among the services to mankind and the medical profession which bacteriology has rendered, is the demonstration that the mouth, even in cleanly persons and in health, is the resting-place of a great many dangerous bacteria. In an exceedingly valuable lecture on this subject, E. W. Roughton (The Lancet, Oct. 18, 1902) discusses it under a variety of important subheadings, the following of which are of greatest practical importance. First: the relation of bacteria of the mouth to disorders of digestion, which is an influence hitherto doubtless much underrated. Miller remarks that persons are frequently met who carry such filth in their mouth as they never would tolerate on their skin. The physician who must insert his finger into such a mouth is well-nigh overcome with disgust. The fetor, the thick deposit on the teeth in a state of bacteria fermentation, the intense redness, inflammation or even suppuration of the gums, decaying teeth or roots of teeth, chronic abscesses and other putrefactive processes are among the common conditions which render the mouth a cesspool. Such patients travel from one health resort to another, from one physician to another, whereas ordinary care of the mouth, with the services of a good dentist, would remove much or all of their trouble. For many years it has been recognized that many disorders of the stomach and intestines owe their origin to buccal fermentation and putrefaction. In diseases which lead to either insufficient acid-formation or abnormally long retention of food in the stomach, undue fermentation very readily takes place. Thus, carbohydrate food is decomposed markedly into gaseous products either by alcoholic, acid, lactic or butyric fermentation. Ewald mentions a case in which the patient aptly described his case as "a vinegar factory alternating with a gas factory." Sometimes this patient belched up the higher compounds of carbon hydrogen which ignited in front of the face with a candle-flame. There can be no doubt that the mouth acts as a breeding or starting place for a certain amount of the bacteria which set up this kind of fermentation in the stomach. Miller has demonstrated twelve varieties of bacteria in the mouth and the same in the feces and eight of the same in the contents of the stomach. He also found that the stomach-contents from each patient, pumped out three hours after a meal and placed in an incubator did not become sterile until after a lapse of 14 hours. He therefore concludes that bacteria which may pass alive into the intestines from the stomach in this manner would cause trouble there. Schurkshorp deems that out of every hundred bacteria found in the feces, 97 come from food and drink, and three only from the mouth itself, when this is clean and well-cared for. In neglected mouths, however, as many as 30 per cent. certainly come from this source. The actual clinical association between a bad mouth and poor digestion is illustrated by a case reported by Miller in which a woman who complained of her life being insupportable because of digestive troubles came to him with a "handful" of various prescriptions which she had tried. The almost inexpressible condition of her mouth suggested to him the cause. After the return of the mouth, under considerable treatment, to a healthy condition, the balance of her digestive tract readily recovered. Not only functional troubles, but organic diseases of the stomach and intestines may certainly have their origin in the mouth. Hunter records a case of subacute infective gastritis, secondary to suppuration around decayed teeth. The symptoms suggested cancer, all of which disappeared when the carious teeth were removed, and the mouth cleansed, disinfected and kept healthy. Bacteriological examination of the stomach contents in this case showed a fibrinous exudate, abundant in streptococci, which were also very abundant in the mouth. The other important point which Roughton discusses is the mouth as a source of infection to others. He says that the mouth is not only a source of many varieties of infection to its owner, but it may be the means of transmitting disease to other individuals. The presence of virulent diphtheria bacilli in apparently healthy mouths and the possibilities of spread of infection have long been known. Operations in uncleanly mouths are always attended by more or less risk to the operator himself. Miller records a case in which a scarcely perceptible injury of the finger by an instrument used in excavating a tooth was followed by severe swelling of the finger and back of the hand, resulting in the formation of a large and stubborn abscess, which did not heal until after several incisions had been made. A still more serious case occurred some years ago in the practice of a dental hospital. A student scratched his finger on the sharp point of a diseased root. On the following day swelling, redness and tension, accompanied by intense pain, ensued, which rapidly spread to the arm and shoulder; high fever, delirium and other symptoms of blood poisoning arose and only by the most energetic treatment, and after a long period of illness was the danger of a fatal result completely removed. The transmission of the syphilitic virus by means of saliva and instruments employed in the mouths of syphilitic patients is a frequent occurrence. Dulles reports a case in which a patient developed a chancre of the lip two weeks after extraction of a tooth by a dentist. Otis saw chancre of the lip developed about three weeks after a morning spent in a dentist's chair. Bulkley records 30 cases in which syphilis was communicated through bites or blows on the teeth, as well as several cases in which the dentist had inoculated himself by scratching the finger upon a patient's tooth. Veritable epidemics have been caused by infection with the saliva of syphilitic persons. At Philadelphia in 1878 a number of boys were tattooed by a man who was in the habit of moistening the instrument he used with his saliva. Every one of the boys who were tattooed became affected with syphilis. In the Russian province of Wiatka it appears to be the custom among the peasants to ascribe all forms of disease of the eye to the presence of a foreign body, and to attempt to remove the latter by inserting the tip of the tongue between the eyelids. Some individuals acquire a certain dexterity with their tongues, and are employed to perform the operation. In this way 34 persons were infected by a single syphilitic woman and as many more by other individuals.

The Supposed Parasite of Yellow Fever.—Extracts from the official report of the American Commission to Vera Cruz, given by A. AGRAMONTE, (Rev. Med. Cubana, Oct. 15, 1902) contain the statements that the bodies described are found solely in the blood of yellow fever patients and that they may be considered to bear a distinct etiological relation to yellow fever. Subsequent to the issuance of this report, Agramonte, upon his return to Havana, found these same bodies in the blood of apparently healthy subjects. Hence he concludes that a definite assumption of their causal relation to yellow fever is not justified. The so-called parasite is described as a globular, hyaline and, at first sight, transparent protoplasmic mass. Within the body fine granules may be seen, which are not equal in number or size to those seen in lymphocytes or other white cells; and these granules exhibit rapid pedesis, though the body as a whole is devoid of the power of locomotion.

Arterial Alterations and Hemorrhage in Cirrhosis.—Hemorrhages are not infrequent in diseases of the liver. These hemorrhages are often admittedly due, writes CH. BOUCHARD (Revue de Méd., Oct. 10, 1902) to vascular changes which are secondary to autointoxication, the latter being in turn due to failure of the hepatic cells to destroy the toxins which habitually reach the liver from various sources. On the other hand hemorrhage from the region drained by the portal vein may be due to local augmentation of tension resulting from mechanical obstruction. A third class of cases is usually overlooked; these are due to hepatic secretions, for if the liver is normally a destroyer of poisons it is also a producer of them, and diseases of the liver may either augment the production of these toxins or may turn them away from their usual channels of escape. There is no reason why internal hepatic secretion may not be responsible for hemorrhage, for it is known that extract of hepatic cells causes vascular dilatation and that the liver elaborates substances capable of preventing coagulation. Esophageal or rectal bleeding is explained logically by portal hypertension, but the latter will not account for bleeding from the gums, for epistaxis nor for purpura. The source of hematemesis is not always the stomach or esophagus; nævi of the pharynx are common in cirrhosis and these may be the source of the blood which finds its way into the stomach. Bouchard has seen cutaneous nævi develop and disappear side by side with the growth and amelioration of symptoms of hepatic cirrhosis. The history in these cases showed distinctly that the nævi were not venous varicosities; one of them was accidentally injured and the typical arterial remittent jet resulted. Subungual capillary pulse was noticeable in this case, although postmortem examination showed an absence of aortic insufficiency. The general tendency to arterial dilatation associated with hepatic cirrhosis may therefore manifest itself in divers ways and situations. Epistaxis in cirrhosis may possibly be due to cachexia or dyscrasia, but it is usually arterial. Rhinologists commonly ignore the relation of this ailment to the underlying hepatic disease. As a rule the epistaxis of cirrhosis is confined to a single nostril, by preference the right nostril.

Studies in Diphtheria.—During twelve months 709 children were sent to the Hospital Brettoneau with the clinical diagnosis of diphtheria. The diagnosis of true diphtheria was bacteriologically confirmed in 580 cases. The results of the treatment of and complications in these cases have been studied by A. JOSIAS and L. TOLLEMER (La Méd. Moderne, Oct. 8, 1902). The total number of deaths, excluding deaths occurring in less than 24 hours, was 58. Among these 29 were attributed to bronchopneumonia as the sole or the determining cause. The authors emphasize the practical value of isolating from simple diphtheritics those patients who are attacked with bronchopneumonia for the reason that the latter disease is highly contagious in children. They believe that the rate of mortality in hospitals can be lessened in this way. The rate of mortality in the Brettoneau cases is practically that which obtains generally in Paris hospitals under antitoxine treatment, and less than half the rate which prevailed prior to the introduction of the serum treatment. The authors discuss the possibility of lessening the death rate by improving the method of administering the curative serum. But one means seems available—to introduce the antitoxin as early as possible in the course of the disease. It is a common practice among private physicians in Paris to omit the antitoxine treatment, relying upon the hospital to give the necessary injection when the patient is admitted. This omission on the part of the private practitioner is often fatal to the patient.

Treatment of Atonic Dilatation of the Stomach by Means of High Frequency Currents.—In the eyes of many of us electricity as a therapeutic measure is not without doubtful results, so much so that one is apt to regard successes as coincidences rather than results. T. J. Bokenham (The Lancet, Oct. 18, 1902) discusses his results in the treatment of atonic dilatation of the stomach by means of high frequency currents. His experience leads him to think that the immediate and possible and only effects are to give tone directly or indirectly to the vagus nerve and to the unstriped fibers which constitute the muscular walls of the stomach, and as a result of both of these contraction and diminution of the size of the organ occurs. The technic of this treatment he describes in the following terms: The apparatus employed consists of a Rhumkorff coil, capable of giving a 12-inch spark with heavy discharge. The interruption of the primary circuit was at first affected by the ordinary vibrating hammer or by a mercury dipping break, but these have for a long time been discarded in favor of the improved Mackenzie-Davidson break, which has for some months past worked excellently, and with scarcely any trouble. The secondary wires of the coil are led to the inner coats of two Leyden jars of large capacity, which are furnished with adjustable dischargers, after the plan of D'Arsonval, the noise of the discharge being deadened by enclosing the discharging knobs in a glass-lined oak box. The outer coats of these jars are connected, through a variable number of turns of thick wire, one of which is led to earth, the other being connected to the lower coils of an Oudin resonator. The current used for the treatment is obtained from one of the upper coils of the resonator and it is a very rapidly "surging" alternating current of high voltage. This current is applied in a variety of ways by means of special electrodes which may be classed as (*a*) monopolar brush electrode, (*b*) glass or ebonite condensor electrodes of various forms and capacity; and (*c*), moistened plate electrodes of flexible sheet-lead and of large size. As regards the electrical conditions set up when these different electrodes are used there is considerable difficulty in speaking with certainty, so many factors have to be taken into account, while but little is really known about the actual physical conditions. In the early cases treated, the patient was placed on a couch and the region of the stomach "sprayed" with a brush electrode held at a distance just beyond that at which a direct spark would pass between the electrode and the skin. The effect experienced was described as similar to the dropping of a shower of warm sand on to the skin, and after a few minutes peristaltic movements of the stomach would often be distinctly felt. A very convenient condensor electrode may be made by filling a large, flat-bottomed flask with salt water and passing a wire through an india-rubber cork fitted to its neck, the free end of the wire being connected to the resonator. With such an arrangement the effect is, perhaps, more exactly localized to the region it is desired to influence. The lead foil electrode is of such a size as to cover the whole gastric area, close contact is assured by interposing a layer of wet flannel between the metal and the skin. With this the patient usually feels scarcely anything over the area of application, and the quantity of the charge depends upon the electrostatic capacity of the individual. The effect of the application is in most cases highly invigorating. As illustrating his results he gives detailed histories of 17 cases with rather satisfactory results.

A New Treatment of Pulmonary Phthisis.—Many improvements, especially in the general management have been made in the treatment of phthisis, but still much remains to be done. D. Turner (The Lancet, Oct. 18, 1902) gives the following observations of a new method of treatment carried out partly in private practice, but chiefly in the Sanitarium for Consumptives at Mascom, near Melbourne. For many years he has been convinced of the value of massage and electricity in restoring general tone to the system and improving the nutrition generally. On many occasions he has seen the usefulness of rubbing with cod-liver oil children suffering from tuberculosis of the bowels, as recommended by the late S. W. Simpson, and had determined to try massage and electricity on tuberculous adults, and then was led to endeavor to administer certain remedies through the skin by massage, rather than through the stomach. Cod-liver oil, creosote and guaiacol are nauseating to many persons and produce indigestion. After six or seven years' experience, he is confident that all the physiological effects of these remedies may be obtained by external use. The combination employed by him is creosote or guaiacol, one part; oil of citronal, one part; and cod-liver oil, twenty-seven parts. Oil of citronal merely disguises the odor of the creosote and cod-liver oil. This oil-massage, as it might be called, has now been used at the above sanitarium for three seasons, and with better results at each successive season. The sanitarium has been for several years relying on pure air and good food as the only means of restoring the health to the tuberculous, with a little cod-liver oil added as medicine. Under such a system the results, though fairly good, were disappointing, but the introduction of the oil-massage gave very good results. At the sanitarium the application of the oil massage is made daily. The patient, after being hardened by repeated cold spongings for two or three days, lies on a couch, all clothing being removed. Then the body is sponged with a weak solution of bicarbonate of soda (one dram in a pint of water) and dried with a soft towel. The oil mixture is then rubbed in all over the trunk, from the neck to the pelvis, back and front, the quantity used at a time being from one to two tablespoonfuls, according to size and age. In cold weather a small blanket serves to keep the body partially covered. The process occupies a quarter of an hour and its efficacy depends very much upon the vigor of the operator; if only carelessly smeared on without being rubbed in, very little benefit will ensue. Over the abdomen some kneading is done in addition to the rubbing. When galvanism is used generally only one pole is applied over the solar plexus while the other is moved up and down over the upper part of the spine. What share of the results, if any, is due to the electricity, he is unable to say with any degree of accuracy, as generally the galvanism was used at the same time as the massage, and it was impossible to superintend the work personally. The cases where galvanism was not used seemed to do as well as those in which it was applied. The drawbacks to the treatment are the unpleasant odor and the amount of labor connected with it, but if such a fatal disease as tuberculosis of the lungs can be cured small obstacles are not deserving of consideration. Its advantages are many, including immediate relief to symptoms. If the patient is feverish, the temperature generally falls a degree or more after every rubbing, the cough is easier, the appetite improves and the night sweats cease; there is a general feeling of well-being, and the improvement in the lung goes on *pari passu* with the gain in weight. With respect to gain in weight the author remarks that it is well known in sanitarium practice that patients may gain in weight without any corresponding improvement in the lung, and that gain of weight taken by itself is not a reliable test of the beneficial results of any treatment. It is not unusual for patients to increase in weight while their temperature is at 101° or 102° F., but, of course, there is no real improvement in such cases. In private practice if the patient is following any vocation he uses pure olive oil alone and also with patients who are staying at hotels and boarding-houses. He is not by any means satisfied that this is so efficacious as the cod-liver oil and creosote, but undoubtedly it is a great help to other remedial measures. What he especially claims for oil massage is that it materially shortens the time of treatment. It is not recommended in advanced stages or where there is a proneness to hemorrhages. In children the results are better than in adults. In the tuberculosis of children if the climatic conditions are favorable the treatment acts like a specific, and if commenced in an early stage of the disease will generally restore the patients to health in from two to three months.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Value of Widal in Typhoid.—Several interesting points in regard to the value of the Widal reaction in diagnosing typhoid fever are brought out by J. S. BILLINGS, JR. (N. Y. Med. Jour., Oct. 25, 1902) in a report upon the specimens of blood which have been examined by the Board of Health during 1901. There were 1,908 specimens examined and of these 304 showed a positive reaction, and 111 cases were considered typhoid clinically, although the blood was doubtful or negative. In 131 instances where the result of the examination was doubtful and in 1,362 where it was negative the cases proved not to be typhoid fever. According to the rule instituted by the Board of Health in a positive reaction there must be well marked clumping and death of the bacilli within ten minutes when the serum is diluted twenty times. Every case showing a positive reaction proved clinically to be typhoid. The large number of negative results in true cases of typhoid can be easily explained by the fact that many of the specimens were taken early in the disease and subsequent material could not be obtained. It is well known that the reaction frequently does not appear till late in the disease and may remain only for a few days. In a large percentage of the positive cases the reaction was not obtained till the seventh or eighth day. Yet in a comparatively large number several examinations were made with negative results and yet autopsy showed the correctness of the diagnosis. It, therefore, follows that although a positive result may be taken as meaning typhoid with almost absolute certainty, yet a negative result does not by any means preclude the possibility of typhoid and demands that another specimen be sent if the clinical signs persist.

EYE, EAR, NOSE AND THROAT.

X-rays in Treatment of Laryngeal Cancer.—On account of the difficulty with which malignant growths of the larynx are removed and also on account of the serious interference with phonation which must necessarily follow the operation, the possibility of the use of the X-rays in the treatment of this condition has aroused the hopes of those unfortunate sufferers and they frequently demand the probabilities of permanent relief. D. B. DELAVAN (Med. Rec., Oct. 18, 1902) has thoroughly reviewed all the cases that have been reported as being treated by the X-rays and has failed to find a single instance in which a cure was claimed. Although the good results which have been obtained from the action of these rays in malignant growths elsewhere would lead one to hope for great benefit to the laryngeal cases, yet the evidence thus far available is too meager to warrant taking very great chances. In early cases the only safe way, therefore, at the present time, is to recommend the radical operation of extirpation, for that offers a goodly percentage of permanent cures. If it is necessary to delay operation for a short time or if the tumor seems to be of very slow growth it is justifiable to test the action of the rays for a few days at least.

GENITO-URINARY AND SKIN DISEASES.

Varicocele.—There is a wide difference of opinion in regard to the relative importance of local and constitutional causes of varicocele. The lack of vascular tone is undoubtedly an inherited weakness in many instances but the exciting causes are the more efficient. Among the latter C. CHASSAIGNAC (Med. Rec., Oct. 18, 1902) mentions chronic constipation, occupations compelling long standing, sudden or violent physical efforts, frequent or long-continued sexual excitement, especially when not satisfied, and persistent cough and dyspnea. The marked preponderance on the left side is especially explained by anatomical differences: (1) The acuteness of the angle of junction of the left spermatic vein with the renal, (2) the greater length of the left vein, and (3) the relation of the left vein to the sigmoid flexure by which it may be easily pressed upon. The percentage of frequency is variously given but probably lies somewhere between 10 and 20 per cent. of all the young adults. The mental and reflex symptoms are perhaps the ones for which the patients most frequently seek assistance and care should be taken that an operation is not too readily recommended to a sexual neurasthenic with a slight varicocele, for the results may not be at all satisfactory. The three operations which he advises, each possessing advantages over the others in certain particular conditions are: Subcutaneous ligation, open scrotal ligation and suprapubic ligation. The first has the advantage of being done quickly, is bloodless, requires no cutting, and is simpler. The open scrotal operation has the advantage of being exact, also of allowing the resection of the veins and the change in the direction of the incision when suturing if it is desirable to shorten the scrotal sac. It is claimed to be unnecessarily severe and that there is less certainty of primary union. The suprapubic operation is advocated on account of the ease with which the veins may be reached at that point and the greater facility in securing asepsis. The open scrotal operation is considered the one of choice but either of the others may be properly selected. Palliative measures are, however, frequently entirely sufficient and should always be tried before more radical measures are advised. Besides relieving any possible cause which may be present, and toning up the general circulatory system, local applications of very hot or cold salt solutions night and morning with subsequent use of astringent lotions, together with the use of a properly fitting suspensory may be beneficial or even sufficient.

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A LESSON IN SANITATION.

No more interesting story in the history of medicine has ever been told than that related by Major Gorgas, U.S.A., formerly Chief Surgeon of Havana under the United States authorities, with regard to the disappearance of yellow fever from that city. Everyone knows how the army medical department after the American occupation of Havana succeeded in reducing the death-rate of that city from 91.03 during 1898, the last year of the Spanish possession, to 22.11 for 1901, the last full year of American occupation. Eighteen hundred and ninety-eight was a war year and its death-rate was undoubtedly abnormally high, but the death-rate in Havana for ten years before the American occupation was nearly 45. During the last three months of United States rule, just before the management of affairs was handed over to the new Cuban government in April of the present year, the death-rate was scarcely more than 17, which is considerably lower than that of some of our own United States cities.

Notwithstanding the improvement in sanitation in Havana, however, the mortality from yellow fever, did not decrease for several years. There were over 130 deaths from the disease during 1898, over 100 deaths in 1899, and nearly 300 deaths in 1900. Old inhabitants of the city smiled knowingly and said that yellow fever rather liked sanitary surroundings. Some of them hinted that the new-fangled notions of the Americans would only prove fosterers of suitable breeding conditions for the awful scourge the Cubans knew so well. This was the state of affairs when it was resolved to put into practice the theory that yellow fever is a mosquito borne disease.

During the year 1900 yellow fever was prevalent particularly among members of the upper classes and some of the most intelligent members of the community were afflicted. Sanitation alone had evidently failed to lessen the danger from disease. Men who could be absolutely depended on to take every possible precaution known in order to avoid all ordinary means of infection, were stricken by the disease. Practically one-half of the members of the Governor-General's staff died from yellow fever, during this year. If anything were to be done, it had to be done at once and no expense should be spared.

A system of inspection was initiated by which within two hours after the report of a case of yellow fever the patient was thoroughly protected from mosquitoes by close netting. The whole house in which the patient lived was fumigated by burning pyrethrum powder and all the mosquitoes' bodies swept up and burned, because it was found that sometimes the insects were only rendered comatose and subsequently recovered. The houses in the immediate neighborhood were also fumigated in the same way. Besides this, all standing water whether in cisterns or vessels or pools was drained off, in order that it might not form a breeding place for the larvæ of the *Stegomyia fasciata,* the mosquito which is believed to carry yellow fever. Swamps that could not be drained were treated with petroleum.

The effect of these measures was very soon felt. The mosquito crusade was begun in February, 1901. During that month there were five deaths from yellow fever. In the preceding January there had been seven deaths from the disease. In March there was but one death. In April no deaths from yellow fever occurred and the same favorable state of affairs continued during May and June. In July there was one death from the disease and then after a month of freedom from the affection, a single other death from it in September. Since September, 1901, there has been no death from yellow fever contracted in Havana. This is indeed a triumph of sanitation —a landmark in the history of sanitary science.

There were only two places on this continent where yellow fever was endemic—Havana and

Rio Janeiro. While the disease occurred very frequently at Vera Cruz in Mexico and other towns, Bahia in Brazil or some of the Cuban seacoast cities, none of these places were entirely free from the disease at certain times except Havana and Rio Janeiro. Now one of these permanent foci of infection for other places has been taken out of the fell partnership and the method by which it has been accomplished will prove a lesson that the other, Rio Janeiro, will not long neglect. It is probably only a question of a comparatively short time when yellow fever will be a memory, a nightmare of dread in medical reminiscence but robbed of its terrors.

The army medical department is to be congratulated on the work it has accomplished. As we pointed out some time ago, this is only one of many things for which it deserves hearty tribute of praise. There is a lesson for the country in general in the matter, however, that physicians should not neglect to point out. The benefits that accrued to Havana are mainly due to the fact that the sanitary authorities were given a free hand and that the physician Governor-General not only did not hamper their work but stimulated and encouraged them to the limits of his power. Already the cost of the war in lives and treasure has been saved many times over by the sanitary improvements effected. If those who raise opposition to the introduction of sanitary regulations could only be made to understand how much they hamper the progress of a great humanitarian work there would soon be many causes for congratulation because of ameliorated hygienic conditions. If there were medical officials with ample authority, as in Cuba during the American occupation, then the obliteration of many physical evils might be expected here in the United States too. For one thing, much might be accomplished without undue delay for the improvement of the condition of the tuberculous poor and as a consequence of tuberculosis in the whole population. The examples of success of the army medical department, wherever it has been at work, should give renewed vigor to the movement for the establishment of a Department of Public Health whose head shall have a seat in the President's Cabinet and be given the power to extend and enforce sanitary regulations. No more important development of our government could be made at the present time than this. It is almost impossible to foresee the extent of hygienic benefit that might result therefrom. The yellow fever success could not have been anticipated two years ago, and without special government encouragement the problem might have remained unsolved for years.

There is food for earnest reflection and material for popular education in this bit of history that must not be allowed to fall into what, with apologies to our ex-President, has been well called innocuous desuetude.

THE CLINICAL CYTOLOGY OF TRANSUDATES AND EXUDATES.

TWENTY years have passed since Ehrlich first turned his attention to the study of the histology of pleuritic exudates. Almost simultaneously with the publication of Ehrlich's studies, appeared the observations of Quincke on the formed elements found in transuded liquids. But these investigations represented merely the vague adumbrations of a science which promised so little of real clinical value that for a long period it was allowed to rest almost unnoticed. The advent of lumbar puncture recalled to use a method of examination which originally had been applied to the contents of the pleural sac, and for a time it seemed likely that a new and important clinical art of cytodiagnosis might be founded upon the basis of numerous cytological studies.

During the past two or three years more than a hundred utterances on the subject of cytodiagnosis have appeared in France alone; two-thirds of this work deals with the normal and pathological cytology of the cerebrospinal fluid, while the remainder concerns itself with transudates and exudates arising from irritation of the pleura, the peritoneum, the pericardium and the serous linings of joints.

The highest expression of this so-called cytology is the series of formulæ intended to be applied to the diagnosis of pleurisies. A. Descos, who has critically appraised these formulæ as presented by Barjon and Cade and by other writers (*Revue de Méd.*, Oct. 10, 1902), has a high regard for their exactness and diagnostic value. The cytological examination of pleural contents for purposes of diagnosis and prognosis is not a common practice in this country, and there is at least sufficient evidence of its value to make its more frequent use advisable. Any general hospital possesses the material for these clinical studies. The differentiation of the conditions underlying pleurisy with effusion has puzzled every practitioner of wide experience and the aid of cytology will be more than welcome.

Classification of the cells found in the fluid obtained by lumbar puncture has led to the development of formulæ according to which some writers claim to be able to differentiate incipient tabes, general paresis and meningo-myelitis. In tuberculous meningitis the studies thus far made have given very conflicting results and no serious clinical value can be attached to them. On the other hand we have in cytology a means to distinguish true inflammation of the meninges from those lesser conditions of irritation which symptomatically simulate meningitis. Concerning effusions into the pericardium and peritoneum cytology has as yet no authoritative word to utter. Julliard has presented an elaborate series of inferences based upon cytological studies in hydrocele, but we fail to see their clinical importance. The examination of fluid collections within the articular cavities is an interesting rather than a profitable pursuit, although it is stated that subacute and afebrile rheumatic processes can be distinguished by this means from tuberculous arthritis. The chief result of this last-named branch of study has been to show the important rôle played by the degree of acuteness of the inflammatory process and to demonstrate the modifications resulting from puncture itself; these modifications might easily lead to erroneous conclusions in cases in which repeated examinations were made.

Discredit has been thrown on cytodiagnosis by the hasty generalizations of writers who alleged the existence of a law applicable to all serous membranes, according to which lymphocytes signified tuberculosis, polynuclear leucocytes acute inflammation and endothelial cells simple mechanical transudation. As a matter of fact, lymphocytes are not specific evidence of tuberculosis but signify as a rule merely a chronic, mild form of irritation whatever the nature of its origin. In any case of serous effusion, the cause remaining of the same kind, the cytological formula will change as the degree of irritation increases or decreases. But while intensity is a factor it is not the sole influence at work. A mistake was made by disregarding its potency while emphasizing that of specific causes; an error just as serious will be made if specificity be disregarded while studying degrees of intensity.

The ground has been broken in cytodiagnosis by investigators who have achieved through this work but small practical results and less glory. Further efforts will be more difficult, but in certain directions at least promise to yield practical results; we have indicated what these directions are.

EMERGENCY CASES AND CLERGYMEN.

Within the past few months there have been several instances reported in the newspapers in which clergymen have felt that their ministrations were interfered with in cases of seriously injured persons by the refusal of physicians in charge of the patients to give either time or fitting opportunity for the exercise of spiritual functions. In the cases that have been given undesirable publicity the physicians have always been young men, usually hospital surgeons on ambulance cases. The complaints are manifestly occasioned by the thoughtless action of the over-zealous young medical man, rather than by any deliberate discourtesy. It is lack of tact and proper fellow-feeling, and not want of reverence, that is to blame. It is a personal delinquency, not a professional offense, and must be set down to no deeper cause than youthful inexperience and the sense of importance that often takes possession of a young man when first asked to assume entire charge, if only for the moment, of serious cases. Of any real wish to hinder the exercise of spiritual ministrations there is little evidence. The modern physician, even though young, is of sufficiently broad culture not to obtrude any religious prejudices he may have, especially when a human life may be hanging in the balance and spiritual consolation may mean so much for the physical restfulness of the patient.

Occasionally, as most physicians have had opportunity to experience, it is the clergyman that is at fault in these cases. Time may be very precious in an accident case, and thoughtless young clergymen may tactlessly waste precious moments that would well serve for the prevention of serious developments. While there must always be opportunity for actual religious ministrations, if desired by the patient, there is seldom occasion for the giving of the verbal religious encouragement sometimes deemed necessary, and which in emergency cases the mere presence of the clergyman may replace, while the physician proceeds with the necessary details of treatment.

Where the two professional men meet in a spirit of true gentlemanly sympathy for the unfortunate sufferer there is no reason for even the slightest uncomfortableness in the exercise of their respective functions. If either is to yield something of what he considers the duty of his position in such matters it should be the physician, unless this yielding would absolutely endanger the life of the patient or add seriously to the risk of subsequent complications. We say this with better assurance because we know the genus ambulance surgeon and realize that at times he is a little prone to assume an authority somewhat unbecoming his years and experience —or lack of it—but which only provokes a sympathetic smile unless it involves some derogation from that professional courtesy that we expect from the cultured graduate of the present day.

There was a time when it was the fad for physicians, and especially the younger ones, to pose as non-believers in religion. That time is past, and the great leaders of the profession are either men of sincere religious beliefs or are thorough respecters of the feelings of others in this eminently personal matter. To no one in our day can it seem that the spiritual side of things is a negligible factor in human life, and least of all can it so appear when the stimulating confidence begotten of spiritual consolation may prove a therapeutic element of great importance in a doubtful case; when indeed it may of itself be sufficient to swing the balance in favor of life.

ECHOES AND NEWS.

NEW YORK.

College of Physicians and Surgeons.—Dr. Herman Knapp of the Medical School has been appointed emeritus professor in ophthalmology by the university trustees.

Dr. Frederick S. Lee, professor of physiology at the College of Physicians and Surgeons, will deliver an address on Nov. 14, at the quarto-centennial exercises of the University of Colorado.

Improvements at Bellevue.—Work will begin in a few days on the remodeling of the old Bellevue Medical College building. The inside of the building will be radically altered, but the four walls, which have been up since 1861, will be left standing. The first floor will be made into a dispensary and reception room for visitors, the second into a lecture hall for nurses and the third and fourth into a dormitory section capable of housing 150 employes of Bellevue Hospital.

Resignation of Dr. G. T. Stewart.—Following the recent shake-up in Bellevue Hospital, in which George Taylor Stewart, former superintendent, was virtually deposed, his assistant, Michael J. Rickard, being installed in his office, that institution was cast into agitation yesterday by the announcement that Dr. Stewart had handed in his resignation to the Board of Trustees. The resignation will take effect on January 1. Dr. Brannan and the other trustees are now considering other changes which will affect the destinies of the institution and its employes. In this they are being counseled by Homer Folks, Commissioner of Charities.

Woman's Hospital.—The November meeting of the Hospital Guild of the New York Medical College and Hospital for Women was held last night at 68 West Sixty-sixth street, the home of Mrs. William Curtis Demorest, its president. It was announced that William Zeigler had offered to pay one-third of the Guild's floating indebtedness of $21,000 if the Guild can raise the remaining $14,000 by Jan. 1 next. Of that amount $5,000 has already been raised and last night four life members at $1,000 a year and six life members at $100 a year were elected. The Guild now has 400 members. The new hospital is to be opened at 17 and 19 West One Hundred and first street this month.

Campaign Against Smallpox.—The Board of Health has issued a circular to the doctors of the city urging them to cooperate with the Health Department in preventing a reappearance of smallpox this year and especially by seeing that their patients are properly vaccinated before winter sets in. The disease is more prevalent during the winter and spring months. In the circular the board also says it has been discovered that smallpox occurs in a majority of cases among persons who have not been re-vaccinated after a proper interval and not among those who have never been vaccinated. Every one should be vaccinated at least once in five years, the board holds.

Free Lectures on Tuberculosis.—The Committee on the Prevention of Tuberculosis has arranged a course of free public monthly lectures in the assembly hall of the United Charities Building, at Fourth Avenue and Twenty-second street, which will cover various aspects of the disease. The first lecture was given last week by Dr. J. H. Huddleston on "Germs of Consumption—What They Are and What They Do." Others of the course will be by Drs. Biggs, Janeway, Knopf, Trudeau, Jacobi and Bryant, and Secretary Devine of the Charity Organization Society. There will be in addition single lectures of similar purport delivered in various parts of the city such as have already proved of great value to mothers and settlement workers.

The Death of Dr. M. J. Asch.—At a stated meeting of the Medical Association of the Greater City of New York, held at the N. Y. Academy of Medicine Nov. 10, the following report was received and adopted.

Morris Joseph Asch, M.D., died at Irvington-on-Hudson, October 5, 1902, in his seventieth year. He was a native of Philadelphia, where he took his degree in arts at the University of Pennsylvania in 1852 and in medicine at Jefferson Medical College in 1855. Through the civil war he served with distinction on the staff of Gen. Sheridan. For upwards of 30 years, and until his retirement less than two years ago, he was engaged in active practice in New York, where he gained a large following and many friends. In 1872 he became a surgeon and afterwards a consultant at the New York Eye and Ear Infirmary, and he served in similar positions in the throat department of the Manhattan Eye and Ear Hospital of New York, from the year 1879.

For several years he held a professorship of laryngology at the New York Polyclinic. He was one of the original Fellows of the American Laryngological Association, and in 1892 received the well-deserved honor of election as its president. His contributions to literature were frequent and valuable, consisting for the most part of clinical reports gathered from his unusually wide experience.

He was a member of many social and scientific bodies, in all of which he won the friendship and esteem of a large circle.

By those most intimately associated with him in hospital and clinical work he will be remembered for his devotion to duty, his keenness in diagnosis, and his manipulative skill.

His chief title to fame with the profession at large rests upon his careful elaboration of an operation for the correction of deflections of the nasal septum, with which his name will always be connected. Whatever may be the general opinion of the Asch operation, whatever improvements and modifications it may hereafter undergo, the fact remains that he succeeded in grasping the principles which underlie the successful management of this obstinate deformity and in proposing certain technical details of marked value.

His charm of manner, his amiable disposition, and his kindness of heart combined to endear him to everyone with whom he came in contact, whether patient, friend or colleague. Those nearest to him will always recall his attractive personality. To the world his career and character will stand as models worthy of emulation.

(Signed) Charles H. Knight,
H. Holbrook Curtis,
Henry Freeman Walker, *Committee.*

The Medical Association of the Greater City of New York.—Report of Committee on the Death of Dr. Abel Mix Phelps.

Gentlemen: Your committee appointed to report on the death of our late Fellow and associate, Dr. Abel Mix Phelps, reports as follows:

Dr. Abel Mix Phelps, whose death occurred on Oct. 6, 1902, was born at Alburgh Springs, Vermont, Jan. 21, 1851, and obtained his medical degree in 1873 from the University of Michigan.

After practising a number of years at Chateaugay, N. Y., he spent some time abroad, devoting himself especially to orthopedic surgery. In 1885, shortly after his return to this country, he was called to the chair of Orthopedic Surgery in the University of Vermont. Later he occupied for a number of years the same chair in the University of New York. As a further recognition of his labors in this branch of surgery he was, in 1894, elected president of the American Orthopedic Association. In 1901 he became president of the Medical Society of the State of New York. At the time of his death he was Visiting Surgeon to the City Hospital, Blackwell's Island, and was Professor of Orthopedics in the New York Post-Graduate School.

Dr. Phelps was a man of enthusiasm and force, great originality, and firm convictions. Lucid in thought and expression, a bold and skilful operator, he was also a successful teacher and leader in his chosen field, operative orthopedics. Early recognized as a pioneer, his name will be held in honorable esteem wherever scientific orthopedics are practised.

Those who are associated with him more intimately knew the tender side of his nature. In a wider circle he will be best remembered as an honest and true friend.

(Signed) Thomas E. Satterthwaite,
Robert T. Morris,
Reginald H. Sayre,
Committee.

PHILADELPHIA.

Many Typhoid Cases in the City.—The health report for the week ending Nov. 8 shows the occurrence of 124 new cases of typhoid fever, the disease being in every ward but the Eleventh and Twelfth. This is 17 cases more than last week. Over 500 cases are now under treatment.

Health Board Deadlock Broken.—After seven months the deadlock in the organization of the Lebanon Board of Health has been broken by the resignation of Dr. E. H. Gingrich, as Health Officer, and W. L. Brunner as Secretary. They had claimed reelection and contested the eligibility of Dr. J. H. Mease as a member of the Board. Dr. J. H. Groh and E. L. Kreider are the new Health Officer and Secretary.

"What's in a Name?"—According to a local paper a Miss Death, daughter of an undertaker, was lately taken to the German Hospital suffering from appendicitis. She was operated upon by Dr. F. H. Dye and placed in charge of a day and a night nurse, the former being Miss Payne, the latter Miss Grone. In spite of this gruesome combination the patient is convalescing rapidly and will soon be discharged from the hospital.

Memorial to Dr. Hughes.—The fund for the erection of a memorial to the late Dr. Daniel E. Hughes, Chief Resident Physician of the Philadelphia Hospital, has reached $400 and been closed. A substantial part of the fund came from admirers of Dr. Hughes in his former home, Williamsport. An appropriate bronze tablet will be purchased with the fund and placed in the hospital.

New Remedy for Round Shoulders.—It is reported that a physician of Roxborough has during the past three months corrected five cases of round shoulders in a novel way. Noting that very fat men are not round shouldered he concluded that their straightness is due to the effort required to support their heavy abdomens. Accordingly he had a broad belt made and weighted it with lead at the front. This weight was increased gradually until one man was finally carrying twenty-five pounds. But his shoulders straightened. The method is not copyrighted.

Hospital Sites are Numerous.—The latest step in the removal of the municipal hospital and almshouse was taken last week when the chairman of council's committee introduced ten ordinances for the purchase of sites. This method was taken to dispose of the 65 offers of sites made to the committee during the summer. Mayor Ashbridge promises early action by councils in regard to selecting sites and beginning the pavilions for consumptives at the Philadelphia Hospital. When alterations are completed the 1,500 insane of the city who from lack of room are now in asylums up the State, will probably be brought here again where they can be cared for at less expense and will be nearer their friends.

Good Results at Rush Hospital Country Branch.—The country branch of the Rush Hospital for consumptives was closed Nov. 1 for the winter because of lack of funds to convert it into a winter sanitarium. In all, 18 patients were treated there during the summer and all but one showed marked improvement, the general results being most satisfactory. One patient remaining at the city branch is also seemingly cured, having increased in weight from 83 to 129 pounds under treatment.

School Dangers to be Discussed.—At a mass meeting soon to be held in the Thirty-fourth Ward under the auspices of the Business Men's Association will be given facts ascertained by an investigation into the condition of the schools in that ward. In the Hoffman Annex the rooms measure 30x14x8½ feet and in them are seated more than 60 children. Practically no ventilation is had on cold days. The investigation also disclosed the fact that the normal attendance for the city is 91 per cent., while for the Heston Annex the rate is 77 per cent., for the Hoffman Annex 79 per cent., and for the worst room in the Heston Annex 69 per cent. Resolutions to be offered will demand the renovation or immediate abandonment of the Heston Annex and the condemnation and destruction of the Hoffman annexes and the use of their lots for school yards.

Nurses Addressed by Dr. Mitchell.—The closing session of the Sixteenth Annual Council of the Guild of Saint Barnabas for Nurses, held here during the past week, was marked by an address by Dr. S. Weir Mitchell. Dr. Mitchell confined his address almost entirely to the ethical training of the nurse and her demeanor toward patients. Among other things he said: "The character of the intelligence of the doctor is of less moment than that of the nurse. After the doctor prescribes he goes, but not so with the nurse. She remains, and often it becomes one long, tedious vigil, wearying to the nurse and patient alike. It is then that those qualities, that almost indescribable something that marks the refined and well-bred woman, are of vital import. The successful nurse should combine the qualities of religion and practical work, for with a good heart good manners go hand in hand, and goodness makes good manners easier of acquirement." He also spoke of the health of nurses and the need of outdoor exercise to give them the robust health so necessary in their work.

No Law Against Credulity.—At the inquest held to determine the cause of death of J. J. O'Brien, a patient at the Koch Lung Cure Institute, Dr. D. G. Knapfel, the head of the Institute, testified that credentials from New York allowed him to practise here on payment of a registration fee. He also said that they did not guarantee to cure consumption although 80 per cent. of their patients treated for tuberculosis, asthma, and bronchitis are cured. After hearing two of the 20 complainants who denounced the Institute, Coroner Dugan told the jury that the proprietors of the institute could not be held as they were qualified by law to practise. "There is no law against credulity," he said, "and it is not the business of the coroner's office to prevent people making fools of themselves." The Ledger, in commenting on the occurrence, states that the coroner's observation is true and that medical quacks find victims because so many people are waiting to be victimized. It is like the green goods or the gold brick game, but the medical quacks are criminals beyond the green goods swindlers because they play upon the misfortunes, sufferings and necessities of their victims. The law avenges those who are swindled in speculation, but those medically swindled have no protection from their own folly. The law says nothing to the insolent advertising of those who appeal to the credulity of the poor and suffering.

Consolidation of Medical Publications.—The announcement is made that the Therapeutic Monthly has been purchased by the Philadelphia Medical Publishing Company and will hereafter be incorporated with the Philadelphia Medical Journal. In view of this change the Journal will contain once a month a special therapeutic department that will embody all the essential features of the Therapeutic Monthly.

CHICAGO.

Rush Medical College to Become an Organic Part of the University of Chicago.—The trustees of Rush Medical College will endeavor to raise $1,000,000 by July 1, 1903, and as a result the well-known medical school will become an organic part of the University of Chicago. At present, Rush is affiliated with the University, but by the new arrangement it will become technically, as well as nominally, just as much a part of the University as any of the schools and colleges located on the Midway. The final action to this end was taken on the afternoon of Nov. 7, by the Rush Medical College board of trustees. At a special meeting of the University of Chicago trustees it was officially voted to receive Rush as an organic part of the University, provided the million was raised. The Rush trustees voted to make efforts to raise the sum, and if it is raised they will incorporate their college as a part of the University. It is expected that the school will expand, so that under the reorganization and with the great scientific equipment of the University at the command of the faculty, Rush will not only hold its prominent position of a training school for practitioners of medicine, but will also take front rank as a graduate medical school. Dr. Frank Billings, Dr. Nicholas Senn, and Dr. E. Fletcher Ingals have been strong advocates of the move. They have taken the ground that the medical education of the future must be in close touch with university work.

Cottage Plan for Consumptives.—Dr. John R. Neely, medical director at Dunning, favors the cottage plan for the care of those suffering from tuberculosis in its incipient stages. The success that has attended such trials has been so uniform that he believes such a project should be undertaken in Cook County. There are now about 150 cases at Dunning of marked tuberculosis. About three-fourths of these cases are hopeless. Of these beyond aid, there is nothing to do except to provide a comfortable hospital for them where they can be well cared for. For those who can be cured there should be a maximum of fresh air and sunshine, and intelligent medical attention and care. Of those who come to the institution in a curable state, he believes that 98 per cent. could be made well if the right treatment could be given.

Ruptured Tubal Pregnancy.—At a meeting of the Chicago Medical Society, held Nov. 5, Dr. Henry Banga reported a case of ruptured tubal pregnancy, and presented the specimen. The patient was twenty-four years old. From the absence of a tumor by vaginal examination, and the fact that the woman was ill for 39 hours, the author was led to believe that blood was escaping into the free abdominal cavity. He therefore advised immediate operation, which was consented to, and a laparotomy was done. The patient recovered. As a practical guide, the author said that if one made a diagnosis of internal hemorrhage and examined the patient and failed to find a hematoma or hematocele, he could be reasonably sure that hemorrhage was taking place. If, on the other hands, a few hours after the attack, or repeated examinations after the onset, one found a gradually increasing tumor which became harder and harder, he could be almost certain that the hemorrhage would cease of its own accord.

X-ray Tube Shields and Specula for Treating Cancer of the Rectum and Other Cavities.—Dr. J. R. Pennington read a paper with this title, and said that in treating cancer of the rectum with the X-ray he had encountered many difficulties. Growths in this region are very securely and completely surrounded and protected by heavy bones and thick healthy tissue. He exhibited a modification of the Caldwell tube. He demonstrated that the energy from an ordinary tube was more powerful at a distance of six or eight inches from the tissues treated than from Caldwell's tube when it is in almost direct contact with them.

Notes on Diverticula of the Male Bladder.—Dr. L. E. Schmidt read a paper on this subject. There is still some confusion in the nomenclature. It is necessary to distinguish between false and true diverticula. A false diverticulum is a closed cavity communicating with the bladder, whose walls are not formed by any parts of the bladder wall. For instance, an abscess cavity which perforates into the bladder or the hollow space of a tumor which communicates with the bladder through exulceration. True diverticula are sacculations of the bladder wall proper. They are either congenital or acquired. The congenital ones show all the constituents of the bladder in their walls, while acquired diverticula, if they become larger, as a rule, have a wall which is formed from mucosa and submucosa only. If a diverticulum originates in a part of the bladder which is covered by serosa, peritoneum may be found as a third layer. Very shallow recesses in the bladder wall, which do not represent separate cavities may be called according to English "bladder cells." Acquired true diverticula are the consequence of "work" hypertrophy and trabeculization of the bladder. One of these, by trabecular encircled areas, gives way under the increased pressure and becomes more and more stretched and dilated, until it breaks through the muscular coat and protrudes, hernia-like into the abdominal cavity. The shape of the entrance and of the body of a diverticulum undergoes certain changes in the course of further development. The entrance is first rhomboidal, later on more rounded. The body of the diverticulum originally of the same diameter as its entrance, becomes more and more enlarged so that it acquired the so-called bottle-shape. Solutions injected into the bladder for treatment may occasionally be partially retained in a diverticulum and reappear at intervals after micturition is finished. The chronic retention and stagnation of urine in a diverticulum will lead to cystitis or to the precipitation of solids, so that indigenous stones may be found. A kidney stone caught in a diverticulum grows rapidly to a bladder calculus by the apposition of urinary salts from the stagnating, concentrated contents of the sacculation. Diverticula may easily become attached to inguinal or femoral hernias, thus complicating the symptoms and the eventual operation. If a diverticulum becomes attached to a pericystitic exudate, sharp pain at this particular point will be felt at the beginning of each micturition, the contracting bladder causing the diverticulum to pull at the pericystitic focus. The indication for choosing operation for stone in a diverticulum depends upon the possibility of dislodging the calculus. A dislodged concrement can be crushed, otherwise cystotomy has to be resorted to. The diagnosis of a diverticulum can be made with certainty only by the aid of the cystoscope. Some authors recommend a total resection of diverticula which give rise to serious symptoms.

Operative Dysmenorrhea.—Dr. G. Kolischer said that under the term dysmenorrhea are, as a rule, subsumed all conditions which cause extreme discomfort and pain immediately before and during menstruation. The term dysmenorrhea in a strict sense should be reserved only to these menstrual troubles which are due to certain nervous, nutritive, or mechanical changes in the uterus proper, and which are characterized by one leading symptom, the spasmodic painful contractions of the uterine body. Nervous and nutritive dysmenorrhea, the latter either due to a general anemia, or to hyperoplasia of the uterus, yields readily to appropriate treatment. Nervines and hydrotherapy in the first group; Thure Brandt's massage, resistance gymnastics, bicycle riding in the second group. Apostoli's electric treatment, although frequently successful, has decided disadvantages. It is not free from the dangers of subsequent infection and inflammation and necessitates in virginal patients the laceration of extreme dilatation of the hymen. Mechanic dysmenorrhea is based either on an abnormal tightness of the internal os, or the general narrowing of the cervical canal. In the latter cases the cervical tissue is, as a rule, very rigid. By these conditions the flow is partially retained in the uterine cavity, thus giving rise to painful contractions. Or the general narrowing of the cervical canal does not give space enough for the mucosa swelled up by the menstrual congestion so that the stretching of the cervix adds to the discomfort. The anteflexion so generally accused as a cause of mechanical dysmenorrhea has nothing at all to do with this condition. Mechanical dysmenorrhea is observed equally frequent in straight or retroflected uteri while even extreme anteflexion, provided cervix and its mucosa are normal, does not cause dysmenorrhea. The diagnosis of mechanical obstruction is made by sounding, and occasionally by inspecting the cervix during the early stages of menstruation. In some cases we see the swollen mucosa protrude from the external os. Dilation of the cervix and incision of the junction between cervix and body have, if any at all, temporary effect only. It is necessary to resort to plastic operations in order to secure a certain and permanent relief. The operations devised by Defontaine, Snegiereff, Alexanderoff and others do not seem to answer this demand. Author employs a method which consists in splitting open the cervix by bilateral incisions and excision of a wedge-shaped piece of tissue out of either side. In case of necessity this excision can be carried through around the whole circumference of the cervical canal. The incision wounds are afterwards closed by sutures. In 47 cases collected in the last seven years the result was in all but one case absolutely perfect and up to date, no relapse has been observed. The last mentioned case became in some way or other infected so that inflammatory and edematous conditions of the concerned parts still prevail, thus causing, up to this time, absolute failure, so far as relief of the dysmenorrhea is concerned. In three of the operated cases, pregnancy and smooth confinement followed the operation after two, five, and six years respectively, of matrimonial sterility. The author restricts the operation to properly selected cases of mechanical dysmenorrhea after all the other bloodless methods have been tried and failed. The hymen should only be destroyed by the surgeon after the patient has been fully made to understand the importance of this step.

Massage and Gymnastics in Gynecology.—The author of this paper, Dr. George Rubin, pointed out the indications and contraindications of gynecological massage and gymnastics. He said this form of massage was indicated, first, as a means of diagnosis, and, second, as a means of treatment. In the first, massage alone is necessary; but in the second massage and gymnastics, or gymnastics alone, ought to be employed. Massage should not be administered in acute inflammatory conditions, for in such cases rest is essential; but in subacute or chronic inflammations it often produces astonishingly good results. Massage is contraindicated in carcinoma, sarcoma, tuberculosis, abscess, and cysts of the genital organs. In most instances where massage is contraindicated and radical treatment is refused, gymnastics alone will be beneficial as a palliative by diverting the circulation from the affected parts and by tending to improve the general system. Among the disorders where gynecological kinesitherapy does the most good are displacements of the uterus. It stimulates the muscle fibers of the stretched ligaments to contraction and improves the nutrition of the entire suspensory apparatus of the uterus. It works well in flexions, which are usually due to atony of the uterine musculature, by improving the circulation and toning up the muscle fibers.

Technic.—The technic in gynecological kinesitherapy is very simple. No specially devised instruments or apparatus are necessary. All one needs is a bench, a stool and two hands. The bench ought to be about five or six feet long, 16 inches high, and about 24 inches wide. It is better to have it slightly padded and with a head rest. The stool ought to be of the same height as the bench. The massage is usually preceded and followed by certain gymnastic movements. The movements to begin with are flexion and extension of the arms. The patient sits on the corner of the bench, head upright, spine in full extension, and chest thrown forward. The knees are widely separated. The arms are up and forward, and the hands of the patient are held by the operator, palm to palm, his fingers around the patient's wrist and vice versa. The operator stands on the stool, one foot forward and facing the patient; the patient is now directed to flex her forearms on her arms, and to carry her elbows outward as much as possible. Flexion and extension ought to be performed with slight resistance, in the former by the operator, and in the latter by the patient. These movements are repeated four or five times. The flexion coincides with expiration and extension with inspiration. These movements and abduction of the thighs are the most important in gynecological kinesitherapy, on account of their decongesting effect on the pelvic organs. It should be omitted in the first two or three days of menstruation, except in menorrhagia, in which condition it is highly beneficial.

Massage.—This is executed bimanually, one or two fingers being in the vagina (the French masseures use the index finger alone, while the Germans introduce two fingers), the pulp of the finger, or fingers, is lightly pressed against the cervix, as near to the isthmus as possible. In displacements or flexion of the uterus, it is well for the operator to try and correct the position first and steady it in that position by the left hand. Where there are no adhesions, this is easily accomplished, and in the other cases it ought to be brought as near the normal position as possible. The right hand is placed on the abdomen, and after obtaining a complete relaxation of the abdominal wall, the massage is commenced and may be performed by circular friction, stroking or vibrations. Pressure should be avoided. The affected organs should not be massaged directly, but around them. Direct massage is indicated in subinvolution or in flaccidity of the uterine musculature itself. In nearly all other conditions the indirect massage should be given. This treatment should last from two to four minutes only, and should be done with a very delicate touch. The position of the patient should be the same as for an abdominal exploration, with the thighs flexed and separated, so as to permit a maximum amount of relaxation of the abdominal wall. The pelvis should be somewhat raised, which is easily accomplished by having the patient place her fists under the seat. The operator is seated on the stool to the left of the patient, leaning forward and resting his left elbow on his left knee, thus giving him more freedom to manipulate the cervix with his finger. The last part of this treatment, and not the least, is the abduction of the thighs which is performed in the following manner: The patient's head and shoulders are supported by a pillow, or otherwise, the legs flexed at a right angle, the abdomen, pelvis and thorax are raised so that they will form a straight line when looking from the knees down to the shoulders. The patient is then told to spread apart her legs while the operator resists slightly; then they are brought together by the operator while the patient resists. This form of gymnastics has a decided influence on the muscles forming the floor of the perineum. These movements may be repeated about 10 times, if the patient is not debilitated. The essayist spoke of the objections to the Thure Brandt method, saying that one of the principal drawbacks of it is its slowness in obtaining results. It often takes many weeks or months to benefit or cure a patient by this method, and it is therefore unpopular with the poorer classes. The author reported 12 cases in which he had resorted to the methods detailed, and although the results are far from being remarkable, the cases demonstrate along with reports of others the usefulness of the Brandt method in a certain class of gynecological cases. He believes that if the Brandt method is executed by the physician himself, or by one who has been especially trained for it, but always under the eye of the physician, then the value of this method in certain cases can hardly be disputed.

Report of the Committee on Medical Defense.—The Committee on Defense made the following report to the Chicago Medical Society. 1. That they believe that assistance in defending damage suits and probably aid in other legal matters is desired by the membership of the Society. 2. The experiences of the British Society, the New York County Association, and of the New York State Medical Association and the Philadelphia Medical Society, together with information from various sources that they have been able to gather together, leads them to believe that a feasible plan of aid for defending damage suits can be devised for the Chicago Medical Society. 3. They would recommend to the society: (*a*) That a fund for this purpose be established, and that $1.00 of each member's annual due be placed in this fund; (*b*) that a committee of five, known as the Medico-Legal Committee, be elected by the society; (*c*) that this be one of the standing committees of the society; (*d*) that the Committee on Revision of the constitution be requested to take note of this action in arranging the new constitution; (*e*) that this committee be empowered to employ an attorney or attorneys on such a basis, and to do such legal work for the society as seems desirable; (*f*) that nothing in this resolution or in any act of this committee shall or can bind the society to contract expense in excess of a sum represented by $1.00 from each annual due paid; (*g*) that they give notice of a motion providing for the setting apart of such funds; (*h*) that the society should recommend to the Medico-Legal Committee that an attorney be employed to care for suits against members up to the time of going into court, without any expense to the members, but that for the court expense of members the society is not to be held liable, provided that they also recommend to the committee that some arrangement be made with the lawyers for the defense in court of the members of this society, said expense to be borne by the member or members involved; (*i*) they recommend that this committee, in this work, cooperate with the present Medico-Legal Society, and affiliated societies of the Chicago Medical Society; (*j*) that the above recommendations to the standing Medico-Legal Committee are advisory, and are not mandatory.

CANADA.

Victorian Order of Nurses to be Revived in Halifax.—A few years ago a branch of the Victorian Order of Nurses was organized in Halifax by the Countess of Aberdeen, but she had no sooner left the shores of Canada when the branch was abandoned and the nurses dismissed. Physicians doing work among the poorer classes in Halifax have felt the need of these nurses, so a number of the benevolent ladies of that city, realizing the need of better nursing among the poor, have resolved on starting the Order anew.

Sanatorium for Consumptives in Nova Scotia.—The government of the Province of Nova Scotia is asking for tenders for the erection of a wooden two-story building with 115 feet frontage for the purposes of a consumption sanatorium. The new building is to be located at Kentville in King's County, a situation which is said to be a most suitable one for the treatment of tuberculosis. When completed the building will have accommodation for 50 patients. It will be constructed on the lines of all modern improvements, and will have a resident medical officer in charge.

Halifax Medical College.—The number of students enrolled this year at the Halifax Medical College is larger than for any other previous year. The building has been recently remodeled and new class-rooms added, and a well-equipped laboratory has been built in the main building. Dr. Halliday who has occupied the chair of pathology only for a short time has been compelled owing to ill health to pass the winter in Colorado. In his absence this department will be conducted by Dr. Campbell.

Scarlet Fever Serum Discovered.—Dr. G. A. Charlton, Rockefeller Fellow of Pathology at McGill University, Montreal, claims to have discovered a serum for the treatment of scarlet fever. In the current number of the Montreal Medical Journal the details of the treatment are given along with a report of fifteen cases treated there with this serum. Of the 15 cases which were of a severe type, 13 made prompt recoveries almost free from complications. Of the two patients who died, one was moribund on admission to the hospital, and the other contracted diphtheria. The results produced by the serum are seen in the rapid abatement of the fever, absence or marked diminution of suppuration in the middle ear, and rapid convalescence of the patient.

Canadian Scientific Literature to be Catalogued.—At a conference of scientific workers held at London in 1896, it was decided to establish an annual international catalogue to be published yearly on scientific work. The authorities of McGill and Toronto University are cooperating in the matter and the following gentlemen have been appointed to look after the cataloguing of Canadian scientific publications: Pharmacology, experimental pathology and bacteriology, Professor J. George Adami; botany, Professor Penhallow of McGill; anatomy, Professor Primrose of Toronto University; physiology, Professor A. B. MacCallum of the same institution.

Notre Dame Hospital, Montreal.—At the annual meeting of the Board of Governors of the Notre Dame Hospital, Montreal, held a few days ago, it was announced that next spring the erection of a new hospital building would be proceeded with. Dr. E. P. Lachapelle was reelected medical superintendent, and presented the annual medical report for the past official year. It showed that during the 12 months 2,132 patients had been treated, as against 2,200 for the previous year. Of this number 1,285 were men and the balance women. The results of treatment were satisfactory. Of the total number, 1,813 were discharged cured or improved, and only 185 were discharged as unimproved. Forty-five wounded were brought in either dying or dead, and 91 died in the wards during the year. This makes a percentage mortality of 6.10 as against 6.09 for the previous 12 months. In the out-door departments there were 18,315 consultations.

Reporting Cases of Tuberculosis.—The Board of Health of Hamilton, Ontario, is considering a by-law providing for the reporting of all cases of tuberculosis occurring in that city to the medical health officer. The by-law is recommended by the medical health officer himself, the Hamilton Medical Society and the mayor of the city. Another by-law was passed recommending the establishing in the City Hall of a medical laboratory.

The Bubonic Plague Being Kept Out of Canada.—It is owing to the rigid quarantine system of Canada, according to Dr. Montizambert, the Director-General of Health for Canada, that the plague has never appeared on the shores of this country. At the William Head quarantine station on Vancouver Island, British Columbia, no case has ever appeared. Then the Canadian Pacific steamship officials are very particular in their inspection of vessels and the boarding of passengers at Hongkong and other oriental ports. Dr. Montizambert has had the staff of inspectors along the boundary line of British Columbia withdrawn owing to the great abatement of the smallpox epidemic in the Western States.

GENERAL.

Dr. Loeb Goes to San Francisco.—Dr. Jacques Loeb of Chicago goes to the University of California and takes the new chair of physiology.

Women Physicians in Paris.—Opposition to women doctors in Paris is still very great, it is said. She must be a courageous woman who finishes the course of study undeterred by insults and rude treatment from the men students. Since the first diploma was granted a woman, less than 20 years ago, 57 women have finished the required course, and are practising in Paris. Two hold official appointments, and the others have good patronage. Nearly all are of Rumanian or Russian birth.

Hospital for Lepers in Russia.—The Russian Society for the Suppression of Leprosy has recently erected a sanatorium for lepers in St. Petersburg, having accommodation for 95 patients. The Society receives an annual allowance from the local government, conditional upon its care for all lepers found in the city hospitals.

International Otological Congress.—This Congress will take place in 1904 instead of 1902 as originally planned. The date of the Congress has been postponed on account of the International Medical Congress to be held at Madrid in April next.

Course in Colonial Medicine in Paris.—A course of instruction in tropical diseases covering a period of two months is offered by the Paris Faculty of Medicine. The course will embrace hematological and bacteriological technic, parisitology, tropical ophthalmology, surgery, pathology, hygiene and affections of the skin.

Cancer in Germany.—A recent investigation of this subject has brought out the following facts: Cancer is most prevalent in northern Bavaria. Up to sixty years, the disease is most frequent in women; at this age it occurs with equal frequency in both sexes. At seventy, there is again a slight increase in women. Cancer of the stomach is most frequent in men (413 in 1,000). In women, cancer of the uterus occurs in the proportion of 270 in 1,000; and mammary carcinoma, 243 in 1,000. In both sexes are found with decreasing frequency in the order named: cutaneous cancer, cancer of the rectum, throat and liver. The lungs and kidneys are least frequently the site of primary carcinomatous infection.

Ninth International Congress Against Alcoholism.—This congress will be held in Bremen, April 14 to 19, 1903.

Another Virchow Anecdote.—M. Loeh, of Berlin, is said to be responsible for the following story: The scientist Jüngken having sent to Virchow a pathological specimen, for the purpose of having his diagnosis confirmed, the latter at once discovered that a great error had been made as to the character of the specimen, with the result that an unnecessary operation had been performed. From a sense of delicacy, Virchow sent word, in answer to Jüngken's inquiry concerning it, that the specimen had not yet been examined. This statement was made to repeated inquiries, till Jüngken's patience was exhausted; and finally, upon calling at the laboratory and receiving the same reply from the assistant, he exclaimed: "Since my colleague Virchow has gone into politics, he is lost to science!"

Ohio Hospital for Epileptics.—The staff of the Ohio Hospital for Epileptics entertained the Gallia County Medical Society at its regular meeting, Nov. 6, in the Pathological Laboratory of the Hospital. The following program was offered, together with an exhibition of the patients referred to, and with the appropriate practical laboratory demonstrations: A Case of Epilepsy and Hemiplegia, presumably of Syphilitic Origin, Dr. H. S. Allen; A Case of Chronic Lead Poisoning, with remarks on Saturnine Epilepsy, Dr. W. C. Gill; Remarks on Hypernephroma or Adrenal Tumor of the Kidney. A Survey of Recent Laboratory Methods for the Diagnosis of Hydrophobia, Dr. A. P. Ohlmacher; Demonstration of the Widal and Diazo Reactions, Dr. T. L. Chadbourne. The prevalence of typhoid fever in an epidemic form in Gallipolis was the topic of an animated discussion following Dr. Chadbourne's demonstration.

The Average Income of Medical Men in Paris.—In Paris there are said to be 2,600 medical practitioners; of these, 40 have a gross income of from £8,000 to £12,000, 50 of £4,000, 50 from £2,000 to £4,000, 200 from £1,200 to £2,000, 200 from £800 to £1,200, and 1,700 earn on an average £145 a year. In the whole of France there are 1,600 medical men who gain on an average of £110 a year gross.

Trip to the International Medical Congress at Madrid in April, 1903.—As a large number of physicians throughout the country are planning to attend the International Medical Congress to be held at Madrid in April, 1903, special arrangements have been made as regards terms, etc., for a party of physicians from the Eastern States. The trip from New York and return will require about one month. Physicians and members of their families who join this party will be entitled to the special rate of $263.00 for the round trip, including first-class passage on the steamer and railway, hotel accommodations for fourteen days in Spain, including room, meals, all handling of baggage, special interpreter, and fees. The trip will be via Gibraltar, Cordova, to Madrid. Side trips to interesting parts of Spain can be arranged, and also returns by other routes, so as to enable those who desire to visit other parts of the continent. Physicians living in the Eastern and Middle States, who desire information concerning this party, with a view of joining it, can communicate with Dr. Ramon Guiteras, 75 West Fifty-fifth street, New York City. Subscriptions (twenty-five francs) must be paid before the opening of the Congress to the General Secretary, Faculty of Medicine, Madrid, and members should on paying the subscription state the section or sections to which they wish to belong. The Spanish Committee of Entertainment announces that the daily charge per person for lodging, service, light and three meals is in hotels from thirteen to thirty-five francs and in private houses from nine to twenty-two francs. These sums include transportation from the station to the lodging and from the lodging to the station. As it is expected that Madrid will be crowded, those who are to attend the Congress are advised to apply for rooms as soon as possible to the Bureau des Logements, Faculté de Medicine, Madrid. Blank forms for these applications may be obtained on request from the Secretary of the American Committee. The Spanish Committee on Transportation makes no provision for trans-Atlantic travel. Their arrangements are made for receiving visitors at the port of entry and for transportation to Madrid. The French and Spanish railroads have granted delegates a general reduction of 50 per cent. on the fares. In the United States the Trans-Continental Passenger Association advises delegates to use the regular nine months' rate from Pacific points to Missouri River points. A. Jacobi, M.D., Chairman; John H. Huddleston, M.D., Secretary, 126 West Eighty-fifth street, New York City.

The American Roentgen Ray Society.—The third annual meeting of the American Roentgen Ray Society will be held in Chicago, December 10 and 11. The sessions of the society, as well as the exhibits, will be held in the Sherman House, Randolph and Clark streets. Owing to the fact that papers which are to be read at this meeting have to be submitted to the executive committee for endorsement before being placed on the program, it is found impossible this year to issue a preliminary program, but assurance is given that the names which will appear on the program are of the best X-ray workers in the country and that the matter will be unexceptionable. It is earnestly urged that those who recognize the importance of the X-ray, for both diagnostic and therapeutic purposes, will contribute to the success of the meeting by their presence. A one and one-third rate fare has already been granted by the Central Passenger Association, the Eastern Passenger Association, the Western Association, and the Southern Passenger Association, provided that 100 persons buy tickets on this plan. Many more than this number are expected. A charge of 25 cents will be made for viseing certificates by the railroad representative. Owing to the very full program of about 20 excellent papers which have been secured, the convention will be called to order promptly at 9.30 A.M., December 10.

A Dangerous Swindler.—For nearly a year past, many of the doctors and dentists of this country have been victimized by a very clever swindler who has passed under several aliases among them, R. G. Stearns, R. L. Nelson, and others. He claims to represent The Success Company, publishers of the Success magazine, and takes orders for numerous magazines comprised in the Success Clubbing Offers. He works very rapidly, jumping from town to town, and always among doctors and dentists. All the money he obtains is appropriated, and the magazines are never ordered or received. Every effort has been made by the Success Company to apprehend this swindler, but so far without success. The Success Company notifies all doctors and dentists that its representatives always bear a special dated card of introduction, and to patronize no others. It also offers a reward of $50.00 for any information which will lead to the apprehension of this swindler. He is described as follows: From 23 to 25 years old; 5 ft. 9 in. in height; medium build; weight about 150 lbs.; dark hair (almost black) of medium length, very curly about the temples; dark gray eyes (almost hazel); rather sallow complexion, with scattered dark brown freckles; face unusually round for man of so light build; clothes not shabby, but far from new, and much worn. Black coat and vest, gray trousers (hard-twisted goods), with small stripe; black derby hat, much worn; old style turndown collar, with made tie. General untidy appearance for a man in the soliciting business.

Obituary.—Edgar Pumphrey Cook, eldest son of Dr. William J. Cook and Drusilla Pumphrey Cook, was born in Wellsburg, West Virginia, May 2, 1833, and died in Mendota, Ill., Oct. 31, 1902. His father was a graduate in medicine of the University of Maryland in the class of 1826 and his earliest associations were with the profession which he afterward chose for his life-work. His early education was obtained in the common schools of Ohio, supplemented by two years' attendance at Jefferson Academy, located at Jefferson, Ohio. At the age of eighteen he entered the Cleveland Medical College, now the medical department of the Western Reserve University. In the interval between the annual courses of lectures he taught school. He was graduated doctor of medicine in the spring of 1854, being the youngest member of his class and himself a few weeks under twenty-one years of age. Even as a medical student he became convinced that the existing course of study was too short by at least two years to properly equip one for the practice of medicine and as early as 1854 he placed five years as the proper minimum of time. He always stood for the best possible education of the man or woman who chooses medicine as a vocation. In December, 1855, called to Mendota, from Ohio, by the serious illness of his father who, together with his brothers William, David and John, had come west in the previous year, he began the practice of medicine in the place which was to be the scene of his life work. His father, Dr. W. J. Cook, died in Mendota in 1871.

During the Civil War he responded to the call of Gov. Yates, took the examination at Springfield and was appointed a surgeon in the service of the State of Illinois. Just after the battle of Shiloh he was ordered to the field near Corinth, Miss., and for six weeks was surgeon in charge of a regiment of Illinois Volunteers. From the first of his medical career Dr. Cook identified himself with the general interests of his profession. He early joined the Illinois State Medical Society and was always active in its affairs. In 1879 he was elected president. At the time of his death he was chairman of the judicial council of the State society. He was one of the early presidents of the LaSalle County Medical Society, twice president of the North Central Illinois Medical Association and a member of the American Medical Association, Association of Railway Surgeons, the American Public Health Association, and other medical societies. He was an honorary member of the Physicians' Club of Chicago, was a delegate to the Ninth International Medical Congress in Washington in 1887 and again in 1890 to the Tenth International Medical Congress in Berlin, Germany.

First of all, Dr. Cook was a physician. He was an enthusiast in his profession to the day of his death. He was one of the earlier group of Illinois physicians. He was always progressive and, although a general practitioner in a small country town, it was his constant endeavor to keep abreast with the advances in medical science. His attention was particularly attracted to the surgical aspects of medical practice. While still a young physician he performed the first successful laryngotomy for tumor of the larynx performed in the West, and also one of the early operations for ectopic gestation successfully made in this country. He was for many years the local surgeon of the Illinois Central and Burlington railroads. His acquaintance in his profession was unusually wide, and he took great delight in the professional friends he had made in his nearly half century of active medical practice.

In March, 1900, while returning at night from a consultation visit in a neighboring town, Dr. Cook was stricken on the train with an attack of angina pectoris. He was forced to abandon at once the active duties of his profession. His health gradually improved, and although he was never again able to resume his work as a physician, the last two years of his life were devoted to many interests, less arduous in their demands but equally important in his view.

His death was due to a sudden attack of angina pectoris, and although not entirely unexpected by those familiar with his condition, it came as a severe shock to the community and all who knew him.

Dr. Cook has been a subscriber to the Medical News since 1854.

Dr. Oscar Cole Stout died at Syracuse last week at the age of fifty-nine years. He was a specialist in intestinal diseases. He was the son of S. V. W. Stout, formerly sheriff of Wayne county and for twenty years justice of the peace. Dr. Stout practised several years in Lyons.

Assistant Surgeon Walter E. Griffin of the navy died on Tuesday at the Cavite naval station, Philippine Islands. He had been in the service only eight months, having been appointed from Michigan on Feb. 20. Dr. Griffin went to the Philippines in April.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, November 1.

THE SOCIAL POSITION OF THE MEDICAL PROFESSION—A MEDICAL COSTUME—ST. LUKE'S GUILD—AN INVASION OF AMERICAN QUACKS—CHARCOT ON HYPNOTISM.

In an address delivered at the opening of the Medical School of the University College, Bristol, last week, Sir Victor Horsley, speaking of the motives which induced people to enter the profession, said that many did so because it was considered a respectable one. These persons, however, he went on to say, did not take into account the social conditions under which they would have to work. The public, he thought, did not appreciate the fact that the profession sought to purge its ranks of evil-doers and even the government, as represented by Mr. Chamberlain, had an altogether erroneous notion of the functions of the General Medical Council. The fact undoubtedly is that nobody either in or out of the profession, with the exception of Sir Victor himself and a few other members of that august but ineffective body, knows or cares much about it. To the outside its main function appears to be to provide opportunities for gentlemen eager to find a vent for their views on medical education, and other matters more or less directly concerning the profession. Its debates are usually stale, flat and unprofitable—except to the members, each of whom receives five guineas a day during the session. This small but easily earned increment naturally begets a tolerance of long-winded oratory as the system still in force among general practitioners here of dispensing their own medicines fosters a belief in the efficacy of drugs. Medicine in this country is counted as a trade, as may be gathered from the utterances of Judges on the Bench, and from classified street directories, where the doctor is placed not only with the chemist and the undertaker, who may perhaps be looked upon as his natural associates, but with the butcher and the grocer. A curious proof of the light in which the profession is regarded by the aristocracy is that among those of that class who are really good-mannered it is not thought "good form" to address a physician as "Doctor." This custom has nothing to do with the profession or otherwise of the degree of M.D. It really is based on a courteous desire not to remind the physician of the fact that he is *de facto* a tradesman. An interesting illustration of the social status of the medical practitioner is afforded by the following advertisement which appeared not long ago in a provincial newspaper:

> A Nobleman, traveling abroad, will be glad to hear of a fully-qualified Medical Man to accompany him, who is an expert in passing a bougie into the middle ear, and the treatment of ingrowing toe-nails ; terms, food and out of pockets ; an M.D. preferred ; evening dress and Church of England.—Address, &c.

The noble invalid evidently took it for granted that "food and out of pockets" would be a sufficient inducement to a Doctor of Medicine to minister to his ear diseased. And it is likely enough that he was right, for such is the glamor of an "aristocratic connection," however humble, among the simple natives of these islands that the fact that a man had passed a bougie into a nobleman's middle ear and treated his ingrowing toe-nails, would give him a prestige in the eyes of commoners which would be highly useful to him in practice.

It is probably a desire to emphasize their position as members of a learned profession above the level of "trade" that makes many of our doctors anxious to wear a costume that still proclaims their rank to all beholders. It has been suggested that the College of Surgeons should grant its members the privilege of wearing a gown, but so far the college has been content to leave this important question untouched. As a matter of fact, provided they cover their nakedness and do not wear a uniform officially recognized as denoting membership of a Crown service, doctors may wear any fancy dress they please. In the old days a rigid custom prescribed to all practitioners of the art of healing a habit of funeral black, and physicians in the special sense of the term were furthermore expected to don a full-bottomed wig, and to carry a gold-headed cane. Nowadays the frock coat is the sole relic of the past solemnity of attire, and even that is not strictly adhered to by those who feel themselves in a position to defy the tyranny of custom. I have known a very distinguished physician who habitually saw his patients in a velveteen jacket. But even he so far obeyed the rubric that he never went out on his professional rounds except in a frock coat. Some general practitioners of an older generation still dress themselves in black, shining broadcloth, with a white choker round the neck—a garb now generally regarded as peculiar to Nonconformist clergymen and undertakers. There is a considerable section of the profession which gladly takes any opportunity of arraying itself in academic costume.

One of these chances comes to them on St. Luke's day. There is a medical guild under the patronage of the "beloved physician" which on his feast day, October 18, or as near as it may be, goes solemnly to St. Paul's Cathedral to attend a special service. On these occasions the members are vested in robes indicative of their degrees and the universities from which they obtained them. From the man-millinery point of view the effect is not unpleasing, for there is a great variety of color and fashion, ranging from a plain black gown to gorgeous robes which give the wearer the aspect of a macaw. The service this year was held on October 22 when the Bishop of Kensington preached a sermon, the gist of which was that for the difficulties and problems of human life there was no solution but in religion. He said the medical and the clerical life had much in common, for both preached a gospel of health, relief and of restitution. The doctors walked in procession up the nave, and the musical part of the service was rendered by a choir of 250 voices while the tones of the grand organ were reinforced by silver trumpets.

We are at present suffering from an invasion of American quackery beside the tropical luxuriance of which our own native growth is, I am bound to admit, but a sickly weed. The daily papers of the baser sort are full of the advertisements of "Dr. X. La Motte Sage" describing himself as a noted scientist who donates £5,000, to be used for the publication and free distribution of a valuable work on personal magnetism and hypnotic influence; and of "Professor Thomas F. Adkin, President of the Institute of Physicians and Surgeons," discoverer of the Vitaopathic treatment, etc., etc. The list of "noted scientists" who have discovered the secret of perpetual health might be extended indefinitely. I only mention these things as another example of the truth of Mr. Carnegie's statement that British Commerce is being absorbed by American enterprise. Already the large majority of the new remedies warranted to heal every ill that flesh is heir to, from corns to cancer, which are offered by their philanthropic inventors to the confiding British public are of American origin.

With regard to hypnotism, of the kind that claims to be legitimate, it is still looked upon with doubt and suspicion by the great body of the profession in this country. The British Medical Association was induced some years ago to appoint a committee for the investigation of its effects in medical practice. The committee, which was a small one, was controlled by one of its members, an ardent hypnotist, and sent in a report in favor of hypnotism; the Council however refused to accept it. There the matter remains as regards anything that can be called an official recognition. But it is practised by a few physicians, the most noted being Dr. Milne Bramwell, who has from time to time published his results through the proper professional channels and whose honesty is unchallenged. The general opinion, however, is that hypnotism is simply a modern development of mesmerism, without the tub, the rods and the other suggestive apparatus with which Anton Mesmer deluded so many people—himself perhaps among them—in Paris in the latter half of the eighteenth century.

Now, as then, it is among hysterical women and neurotic men that hypnotism finds its subjects. Of the cause which produces the morbid sleep which we call hypnotic, and of its nature, we know nothing. Of its practical applications some knowledge has been gained, but it is by no means certain that this knowledge was worth gaining. Most of our physicians would probably agree with the opinions expressed in the following unpublished letter written by Charcot only a year or two before his death. Having been invited by the editor of a leading English medical journal to write something on the subject, the great neurologist replied:

"I see absolutely nothing that I can say about it. *In certain individuals hypnotism may be utilized for surgery* by producing anesthesia, and also sometimes *for confinements.* But *special subjects* are required. Therefore there is nothing general, nothing very practical about it. I am not disposed at this time to say anything about hypnotism. Ten years ago I opened as Braid had done in 1841 the *box of Pandora.* But owing to want of method and of judicial temper my successors are now going astray. I intend to keep quiet and to wait till the mental excitement of to-day has subsided."*

RECEPTION TO DRS. WOOD AND KEEN.

ON the evening of the 6th inst. there was a notable gathering of physicians of Philadelphia and the neighboring cities to do honor to these two distinguished physicians on their return from a prolonged absence in Europe.

Dr. Musser was in the chair, and, in addition to some 120 Philadelphia physicians, there were from New York Drs. Jacobi and Coley; from Boston Drs. J. Collins Warren and Maurice Richardson; from Baltimore Drs. Welch, Osler, Tiffany, Halsted, Kelly, Brush, Finney and Cushing, and from Washington Drs. Sternberg, Fletcher and Yarrow.

In proposing the health of Dr. Wood, Dr. Welch referred to his experimental work, particularly his study of fever, which he characterized as one of the most important contributions to scientific medicine made by an American physician. He eulogized the energetic way in which Dr. Wood had, by his vigorous writings, supported scientific medicine and methods.

Dr. Wood in reply made one of the most eloquent and feeling addresses ever listened to. Many had heard Dr. Wood in his best moods, but on this occasion, as might have been expected, he outdid all previous efforts. He spoke of the delights of recovery from his long illness, and of the practical lessons which suffering teaches. He referred in a touching way to the old masters in Philadelphia who had one by one dropped away as the years passed.

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* The words in italics are underlined in the manuscript.

Dr. Coley, of New York, proposed the health of Dr. Keen, and referred to his numerous and important contributions to practical surgery.

In his reply Dr. Keen gave some interesting reminiscences of his recent travels in many of the obscure, out of the way corners of the world. He spoke of the frequency with which he met graduates of the Philadelphia Schools in the East. He made an eloquent plea for the development to the highest possible standard of the scientific and practical departments of medicine in order that America might intellectually take a foremost place among the nations of the world.

Dr. Chalmers Da Costa, in a most happy speech, told of Dr. Keen's merits as a teacher, while Dr. Hare gave a number of interesting reminiscences of Dr. Wood's work in his long career as Professor of Therapeutics at the University.

One behalf of the guests, beautiful loving cups were presented to Drs. Wood and Keen.

One feature of the dinner must have impressed everybody—the unusually high quality of the speaking. Nothing could have been more felicitous than the way in which Dr. Musser introduced the speakers. Dr. Wood's address was a rare treat, and the speeches of Dr. Keen and Chalmers Da Costa showed that the tongue could be as facile as the scalpel.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

DIFFUSE THICKENING OF THE SKULL OF A CHILD—CASE OF POLIO-ENCEPHALITIS INFERIOR—DISLOCATION OF THE EYEBALL; REDUCTION; RECOVERY—BIRTH-PALSY OF THE SIXTH AND SEVENTH NERVES ON THE SAME SIDE—CARCINOMA OF THE COLON, WITH SPECIAL REFERENCE TO THE OPERATION OF COLECTOMY—RECENT ELECTRO-THERAPEUTIC AND OTHER MEANS OF TREATMENT OF LUPUS, RODENT ULCER AND EPITHELIOMA—ACROMEGALY AND GIGANTISM.

The fall sessions of the British societies have begun with their usual activity. From numerous meetings which have been held in the last month, the following report is offered as of great interest.

F. W. Andrews, at the Pathological Society, Oct. 21, 1901, showed the skull of a male child, aged four and a half years, which presented great thickening of the entire vault, and, to a lesser degree, of the jaw bones. The child was imbecile. No other bones were known to have been affected. The skull was markedly asymmetrical. The bones affected were all membrane bones, viz., in the vault, the frontal, parietal and interparietal region of the occipital; and in the face the lower jaw and to a slight extent the upper jaw and malars. The temporal bone was unaffected. There was complete synostosis of all the sutures of the vault, but those of the basis cranii were natural. The thickening of the vault was sharply defined and greater over the frontal and parietal bosses than elsewhere. The greatest thickness was eleven-sixteenths of an inch. The distinction between the diploe and the tables of the skull was lost. All was uniform, dense, cancellous bone showing a normal microscopic structure with widened Haversian canals. The nature and causation of the condition were obscure. There was no history indicating congenital syphilis, nor was there any syphilis found during the life or postmortem, nor of rickets. Osteitis deformans was a disease of later life. The term "hyperostosis cranii" had been used for the condition which seemed more allied to leontiasis ossea than to any other affection, though in this instance the calvaria and not the bones of the face, took the chief share in the disease.

Dr. F. E. Batten showed macroscopical and microscopical specimens of a case of polio-encephalitis inferior affecting the nucleus of the seventh nerve on the right side. The patient was a child, aged five years, who was taken ill with paralysis, with difficulty in swallowing, due to weakness of the right side of the palate. There was no paralysis of the limbs or ocular muscles. Vomiting was present. There was no loss of consciousness. The child died from respiratory failure three days later. The specimen showed an acute congestion, most marked in the region of the seventh nucleus of the right side, with thrombosis of the finer vessels, hemorrhage and exudation of small round cells, with complete destruction of the cells of the nucleus. The lesion could be seen both macroscopically and microscopically. In the seventh nucleus of the left side, and in the sixth nucleus of either side there was but little change apart from some slight engorgement of the vessels. There was considerable perivascular engorgement and some exudation of round cells in the medulla in the region of the ninth, tenth, eleventh and twelfth nuclei, rather more marked on the right side than on the left, but at no point was there present the marked destruction that was found in the region of the cells of the seventh nucleus. The lesion was of vascular origin, and exactly corresponded in appearance with that found in an acute anterior poliomyelitis and an acute polio-encephalitis superior. The frequency of acute anterior polio-myelitis during the month of August of the present year was alluded to, and the present was considered to be of the same nature.

E. Nettleship, at the meeting of the Ophthalmological Society, Oct. 16, read a communication from Mr. H. Baldwin Clifford, describing a case of dislocation of the eyeball through the palpebral aperture, as the result of a blow. The globe was replaced by careful taxis and the patient was kept for 14 days in the dark. Smoked glasses were worn for three months, and at the end of that time vision was perfect.

Mr. Nettleship also described a case of birth-palsy of the sixth and seventh nerves on the same side (right). The mother was thirty years of age, and delivery was rendered difficult by brow presentation. The blades of the forceps were applied to the right mastoid region and in front of the left ear respectively. The head was conical from pressure at the pelvic brim, but there were no asphyxia and no swelling or extravasation in the scalp. The child was born at term and weighed seven and a half pounds. The lid of the right eye was closed and there was an internal squint, also spasm of the hands and arms. When three days old it was noted that there was complete paralysis of the right side of the face, with internal squint. The pupils reacted readily to light, though with small range of movement, and there was no swelling of the eye or proptosis. On the fifth day sensation in the fifth nerve area appeared to be equal on the two sides; the child paid no attention to noise; the center of the fundus was well seen, and a small hemorrhage was detected below the right disk, the vessels being normal. At the end of a month the paralysis had diminished, and after nine months it had disappeared. Recovery was complete, hearing being normal on the two sides and the disks being natural. At no time was there any sign of local hemorrhage, either in the lids, the globe or the orbit. The injury was apparently a single intracranial hemorrhage, at the base of the petrous bone, involving the sixth and seventh nerves in the beginning of their course, where they were close together. Birth-palsies were not uncommon, but the involvement of these two nerves was exceptional. Mr. Nettleship cited another case following tedious labor (the mother being thirty-four years of age) in which these two nerves suffered, but with separate lesions, the seventh by pressure of the forceps in the parotid region, and the sixth by damage in the orbit. The eyelids in this case were swollen, and recovery was incomplete.

Mr. H. Littlewood, at a meeting of the Leeds and West Riding Medico-Chirurgical Society, held October 17, read a paper based on the study of 25 cases of carcinoma of the colon which had occurred in his practice during the past three years. The subject was dealt with under two headings: (1) Diagnosis and (2) treatment. He pointed out that an early diagnosis was often difficult but of the greatest importance, for then the most satisfactory results by operation were more likely to be obtained. He divided the growths into two classes, (1) one in which a very obvious tumor was present; and (2) in which the growth was only a constricting ring which it was often impossible to make out by palpation. He thought that the larger growths were very rarely found beyond the transverse colon, and that there was less likelihood of symptoms of obstruction in these cases, as contraction was not usual, and the nearer the growth to the cecum the less probability there was of obstruction by solid feces. As regards treatment, if there was any obstruction, he strongly advised colectomy, with end to end union, and referred to a series of 14 cases of carcinoma of the colon, eight of which had been thus operated on, and six of which had been successful and two had been fatal. In one of the fatal cases, that of a woman aged twenty-eight years, obstruction was present at the time of operation. In the other fatal case, that of a woman aged sixty years, a growth in the transverse colon was found and excised after the removal of a very adherent ovarian cyst. In another fatal case in which the whole of the cecum and colon were removed in a man, aged sixty-five years, a lateral anastomosis was made after closing the divided ends of the bowel. Three cases had been operated on during the stage of acute obstruction. Typhlotomy was performed and later the growth was excised and end to end union made. Two of these patients recovered. Two other cases were described in which the operation was performed during the stage of acute obstruction, and a loop of the sigmoid, with the growth, was withdrawn, through an opening in the left side above the iliac crest, the loop being excised a fortnight later. Both cases progressed well, and the patients were still living. The first case was operated on three years and four months ago. Out of the 14 cases there were four deaths. The positions of the growths in these 14 cases were: Cecum and ascending colon, two; hepatic flexure, two; transverse colon, two; splenic flexure, three; descending colon, one; sigmoid flexure, three; and top of rectum, one. No mechanical apparatus was employed to approximate the divided ends, which were united by means of two rows of continuous sutures of catgut, interrupted at two or three points of the circumference, one row for the mucous membrane and the other row for the seromuscular coats. Mr. Littlewood also discussed the operations of colotomy and typhlotomy in relation to cases where removal of the growth was inexpedient, and he quoted cases to exemplify his views.

Dr. John Macintyre gave a demonstration before the Glasgow Medico-Chirurgical Society at their meeting of October 3, of Recent Electro-Therapeutic and Other Methods of Treatment of Lupus, Rodent Ulcer and Epithelioma. He began his demonstration by explaining theories and principles underlying treatment by light, Roentgen rays, high-potential and high-frequency currents. He described and showed many of the special forms of apparatus and improvements which had been brought out during the year, also special sets of electrodes of his own designs for affections of the nose, throat and other cavities. Dr. Macintyre next entered into consideration of the reasons for selecting any one of these forces in preference to the others, because similar results might be obtained by more than one of them in the same class of affections. Passing to the consideration of the clinical results he referred to a number of cases under his care of lupus which had not improved under other methods of treatment and which had been successfully dealt with by one or the other of the newer methods. As instances of these he referred particularly to one case of lupus of the nose, throat and face of 46 years' duration which had yielded to high-potential currents and X-rays, and also to another case in which much benefit had been gotten after 30 years' illness. He next dealt with the question of rodent ulcer, which he thought in the present position of research, ought to be separated in classifying results, from genuine cases of epithelioma, because clinically and pathologically, although sometimes regarded as carcinoma it differed so much from what was usually understood by the term "malignant disease" that they could easily classify the cases in a group by themselves. Rodent ulcer was often meant when the writer described it as superficial carcinoma, superficial epithelioma, etc. In most of his cases benefit was obtained, and probably the best result he had to record was in a case of rodent ulcer treated by him now nearly three and a half years ago. In this case the patient had been three times surgically operated on with rapid recurrence. On the other hand he mentioned one case of rodent ulcer on the side of the nose which had invaded the maxillary bone, and in which none of the methods mentioned above, after a fair trial of each, had done any good. Passing to the question of true epitheliomatous growths, Dr. Macintyre referred to the cases at home and abroad which had apparently been cured or benefited and placed on record, and of the results in his own experience he described (1) an epitheliomatous growth, filling the whole nasal cavity and passing behind the upper lip to the gums near the roots of the incisor teeth, which entirely disappeared under treatment and (2) a case of tumor of the breast, still under observation, in which the malignant neoplasm on the left side had disappeared, and the other side was rapidly making satisfactory progress. Inoperable cases were also considered and Dr. Macintyre next referred to the great relief from pain which often took place during treatment, also to the disappearance of indurated masses, edema, pressure symptoms and enlargement of glands, even in cases that were surgically considered inoperable. The results in sarcomatous cases were also mentioned, as well as the chances of future progress in the treatment of these and other affections. Lastly, the question of how these forces acted and the theories involved were referred to, and also the microscopical appearances of sections of the tissues while the treatment was being pursued. In conclusion, Dr. Macintyre referred to the reserved and dignified attitude which the profession had maintained in reporting upon cases of malignant disease treated in the way indicated, a course which was no doubt due to the responsibility felt by those who had occasion to write upon the subject. False hopes were easily raised, and a reaction in thought might result, were this fact forgotten. Until more is known about the results of these forces in the treatment of malignant disease he thought it better to reserve them for cases in which surgical interference was not advisable, or where recurrence had taken place ofter operation, but it ought to be remembered that it had been from such unpromising cases that the results already put on record, such as they were, had been obtained.

Dr. G. A. Gibson delivered an address on Acromegaly and Gigantism at the meeting of the Norwich Medico-Chirurgical Society, held October 7, of which the following is an abstract: Dr. Gibson gave a brief historical account of the development of our knowledge of these two allied conditions. He pointed out that when first described by Marie in 1886, acromegaly had been originally conceived as hypertrophy of the hands and feet, but that since the original description, much had been added to the symptomatology of the affection, and that, in addition to the enlargement of many of the bones, both external and internal soft tissues underwent increase in size. He then gave a lantern demonstration of photographs and skiagrams of three cases. Proceeding to discuss the morbid anatomy of the condition, he showed that the one constant factor had been an enlargement of the pituitary body. In 48 cases which had been examined postmortem, there was a pituitary change in 44, but it was certain that the remaining four cases had not been satisfactorily investigated; in fact, there was some doubt as to their being cases of acromegaly. He further stated that there were on record two cases in which alterations in the size and structure of the pituitary gland had been seen, while no symptoms of acromegaly had been present during life. Turning to gigantism, Dr. Gibson related the interesting description by Prof. D. J. Cunningham of the Irish giant, Cornelius Magrath, and his discovery that the condition of gigantism depended, like acromegaly, upon a change in the pituitary body. Through the kindness of Prof. Cunningham he was able to show some beautiful photographs of the Irish giant, as well as of some other well-known giants. He stated his entire agreement with the suggestion of Dr. Woods Hutchinson that gigantism only differed from acromegaly in respect to the age at which it began. Apparently when the pituitary change occurred in early life, before the union of the shafts of the long bones and their epitheses, gigantism was the result, whereas when the pituitary change only began, as was commonly the case in acromegaly, at the age of twenty-five or twenty-six years, acromegaly resulted. He drew an analogy between this interesting fact and the well-known observation that in cases of cretinism the use of thyroid extract only produced growth when the patient was sufficiently young to have the epiphyses still ununited. Dr. Gibson then discussed the structure and physiology of the pituitary body, dwelling particularly upon the work of Dr. W. L. Andriezen and Prof. E. A. Schaefer. He pointed out that, so far, it had been impossible to correlate these interesting researches with the well-known facts of acromegaly and gigantism. As to the practical deductions to be drawn from the facts which he had laid before the society, he expressed his opinion that, by the use of thyroid substance in the early stages of acromegaly, an arrest of the further progress of the disease had been secured, while improvement under the same treatment had actually occurred. In this connection he cited some useful experiences which he had met with.

SEXUAL OSPHRESIOLOGY.

To the Editor of the Medical News:

Dear Sir: The association of disorders of the olfactory organ with disturbances in the sexual sphere has been several times pointed out. It appears that turgescence of the nasal mucosa with sneezing or catarrhal symptoms is not an uncommon phenomenon with sexual overindulgence or excitement.

The following case shows a presumably genuine pathological connection between these widely separated and physiologically dissimilar organs.

The patient is a native of Illinois, twenty-nine years of age, large, very fat, in-kneed and very feminine in appearance. He has very marked arrest of development of the genital organs. The penis is the size of a paper cigarette and perhaps half its length; the testicles are not larger than prune pits. There is no definite scrotum, merely a bulging with a shallow median groove. He has absolutely no sexual desire; has never had an erection or seminal emission. In addition to this genital anomaly there is complete anosmia. Strong, pungent odors cause irritation of the Schneiderian membrane, but no sense of smell. There is a secondary, not very notable perversion of taste. Rhinoscopic examination shows nothing wrong. Bernard Wolff, M.D.

Atlanta, Ga., Nov. 1, 1902.

THE QUESTION OF ALCOHOLISM.

To the Editor of the Medical News:

Dear Sir: The enclosed manifesto or declaration of principle on the alcoholic question has been signed by over 1,000 physicians in England and on the continent, and is designed to represent the best judgment and experience of the members of the profession in the civilized world. The purpose of this is to give expression and assist in the correction of the alcoholic evil and indicate the sympathy and interest of the medical men in the great struggle to combat the evils which follow from the indiscriminate use of alcohol. This is the fourth declaration which has been made by the medical profession in the last sixty years. The following is a copy of the declaration:

"The purpose of this is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source.

In view of the terrible evils which have resulted from the consumption of alcohol, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages.

We think it ought to be known by all that:

1. Experiments have demonstrated that even a small quantity of alcoholic liquor, either immediately or after a short time, prevents perfect mental action, and interferes with the functions of the cells and tissues of the body, impairing self-control by producing progressive paralysis of the judgment and of the will; and having other markedly injurious effects. Hence alcohol must be regarded as a poison, and ought not to be classed among foods.

2. Observation establishes the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life.

3. Total abstainers, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and re-

cover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol.

4. All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers.

5. Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally, and physically. Thus deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved the importance and danger of this increase cannot be exaggerated.

Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical, and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy, disease, and death, not only in the case of those who take such beverages, but in the case of others who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest, and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but is also natural.

We believe that such an era of health, happiness, and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved."

I have been appointed to solicit the signatures of American physicians to this declaration. The last declaration issued in 1871, containing 3,000 signatures, of which only 38 were that of American physicians, this did not represent America as fully as it should. It is expected that this one will be signed by a much larger number, and any physician who is willing to help on this great work should send his name, titles and address to me, either in a note or on a postal card. I will send them to the London committee for their publication during the coming year. I am sure American physicians will respond as enthusiastically to this appeal as physicians in any other part of the world.

Address

T. D. CROTHERS, M.D.

Hartford, Conn.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting held Thursday, November 6, 1902.

The President, Robert F. Weir, M.D., in the Chair.

THE first order of business was the delivery of the anniversary discourse by Dr. Andrew H. Smith, who discussed The Past, Present and Future of the New York Academy of Medicine. Dr. Smith spoke of the condition of the library and of the recent accessions. His review of the condition of the periodical department was especially interesting. Since his report in 1898, when the Academy was receiving 884 periodicals, there have been some births, deaths and marriages in this department. The most serious depleting factor of these interesting beings is infantile mortality. In old age occasionally a few die—usually of failing circulation. Very paradoxical, however, most of them grow more vigorous as they grow older and their circulation is better even than in their earlier years.

The Academy and the Health Department.—The Health Department of the city of New York is really a child of the New York Academy of Medicine, its organization being due to a recommendation of the Academy. There remains work in this same line for the Academy to do as yet, that is in making recommendations and some of the recent resolutions in this regard have had a very satisfactory effect. The recommendation of the Academy with regard to the order of the Treasury Department forbidding the landing at the port of New York of tuberculous patients, stopped the hand of the Treasury Department in what the Academy called an inhumane proceeding, but that if carried out could only be characterized as inhuman without the 'e.' It is as important for the Academy of Medicine to watch over the public health as to hold scientific discussions or maintain a library. By carefully looking out for opportunities where interference by recommendation and advice can be of effect the Academy will do great good and besides acquire prestige. The Academy should stand in the place of a family physician to the public. One of the most striking features of everyday life is the lack of knowledge and the need of direction with regard to medical affairs. There is a collective need of information and only a collective teacher, such as the Academy is, can supply it. The Academy should be the representative of modern scientific and practical medicine in the largest sense of the word and should stand between the public and quacks and charlatans who would impose upon it. There are many other ways in which the Academy's influence might well be felt.

Political Abuses.—An example of where the Academy's influence might have been used to good purpose, Dr. Smith pointed out, as occurring on the question of the transfer, two years ago, of the documentary records of the Board of Health from its fireproof quarters in the Criminal Courts Building, to a building that was entirely lacking in fireproof qualities. The Department of Health records contain a mass of important statistics and absolutely necessary legal records that could not be duplicated in case of fire. The marriages and births and deaths of the city are formally inscribed there and the legitimacy of children and marriage and property questions may well depend upon some of the precious data thus carelessly stored away. If the Academy of Medicine had been properly in touch with the Health Department at the time that the transfer of the records was under consideration, it might probably have secured by earnest protestation some guarantee that no such unwarranted danger should be incurred.

Hospital Conditions in the City.—Dr. Smith spoke of the disgraceful condition that exists in some of the city hospitals of New York and called attention approvingly to the fact that the MEDICAL NEWS considered that the blame for this condition lay not alone with the public or the Department of Health, but also with the medical profession of the city. The Academy of Medicine should have been in touch with conditions so that the present state of things would not have developed without proper protest and the recommendation of methods for its amelioration.

The Medical Profession and the Public.—Dr. Smith said that while in the last 25 years there has been an unexampled advance in scientific medicine, yet there is a distinct popular tendency to go back to medieval consideration in the matter of therapeutics. Scientific medicine is not adequately interpreted to the public. As a consequence we have the inane drivel of Christian Science and the absurd claims of osteopathy as prominent factors in the popular medical life of the day. The upholders of these doctrines are ready at all times and on all occasions to expound their principles and the public are ready to listen. There must be more exposition of scientific advances done in a manner to instruct and not advertise the expounder. As the result of public ignorance there is not one physician on the list of the Hall of Fame. Surely some of the American physicians well deserve a place as benefactors of mankind. When we consider all that abdominal surgery has done for the relief of human ills it cannot be doubted that the name of Ephraim MacDowell will live for many generations. The discoverer of anesthesia deserves a place in any record of great men for the greatest humanitarian advance ever made. There is not publicity enough in medical matters and the Academy should make itself an agent for the proper instruction of the public. This should be as much a duty in its developing future, as any other that can be mentioned.

Yellow Fever in the Past.—Major Gorgas, U.S.A., formerly Chief Surgeon-in-Charge of Havana during the time of the American occupation, spoke of the disappearance of yellow fever from Havana. He said that while at the present time yellow fever is supposed to be confined to the West Indies and certain parts of the Gulf of Mexico with part of the Atlantic shores of South America, about 100 years ago it seemed as though the disease would become endemic in many of the large cities of this country. New York suffered very severely from yellow fever and Boston more than New York, and Philadelphia more than either of them. New York's death rate from yellow fever 100 years ago was higher than Havana's.

Clinical Yellow Fever.—The disease usually lasts eight or ten days, being accompanied by a vomiting of dark biliary material and blood, whence the name black vomit. As a rule, during the course of the disease jaundice develops and hence the name yellow fever. There are some very curious features of its spread. While it is endemic in the West Indies it has spread occasionally of late years to the Atlantic and sometimes even to the Pacific Coast. It occurs in epidemics on the coast of Africa, but has never been known to occur in India or China. It is now known why it does not occur in these distant countries. Yellow fever is not carried in fomites, as used to be thought, but is conveyed by a particular form of mosquito, the *Stegomyia fasciata*. Patients are capable of furnishing the mosquito with contagious material only during the first three or four days of the disease. The length of the voyage to India and China is too great to permit of patients in the contagious stage reaching their ports. Perhaps, too, there are no *Stegomyia* mosquitoes in those countries. This is a question that must yet be decided.

Old Time History of Yellow Fever.—A hundred years ago our northern cities, as yet in the stage before the introduction of regular waterworks, had various receptacles for water in and near every house. Hence, when yellow fever was introduced, mosquitoes were abundant and found excellent breeding places in these standing water places. All conditions were favorable for its spread. Curiously enough it was noted that frost and even comparatively low altitude proved a barrier to the spread of yellow fever. This would not have been the case if the disease were conveyed by fomites, but now that we know that the distributing agent is a mosquito these old-time anomalies of distribution confirm the theory that the disease is mosquito-borne.

Vera Cruz and Mexico.—It has hitherto always been something of a mystery why Vera Cruz, which is really the port of the City of Mexico, frequently has cases of yellow fever in it and yet notwithstanding its intimate relations with the capital city of Mexico, no epidemic of the disease has ever occurred in the capital. The reason is easy to see now, since Mexico is situated at a high altitude, at which the *Stegomyia* can not exist. There is a history of yellow fever at Vera Cruz extending back to before the occupation of the country by the whites. Shortly before Cortez conquered Mexico, Montezuma had invited one of the tribes of the interior to take up their residence at Vera Cruz because so many of the inhabitants had perished in an epidemic the meager description of which that has come down to us seemingly characterizing it as yellow fever. This was not the first time in the history of the country that a similar incident had happened.

Mosquitoes and Yellow Fever.—It is easy to understand now how yellow fever was transferred from tropical America to the northern cities. Many sailing vessels, for instance, came up the Delaware to Philadelphia. These vessels not infrequently took aboard a cargo of mosquitoes as well as whatever else was carried from the West Indies. Often some of the sailors who had been ashore developed yellow fever during the voyage north and thus many of the *Stegomyia* mosquitoes would become infected. These would find ample opportunities for breeding in a city like Philadelphia, where every house had its own cistern and rain water was carefully preserved in some sort of open tank for household use, and so it is not surprising that for 12 years in succession yellow fever reappeared there every year.

Yellow Fever Endemic.—In recent years only two cities remained in which it was positively known that yellow fever was endemic. These two were Havana and Rio Janeiro. Yellow fever occurred at intervals at other ports, especially Vera Cruz and certain of the cities of the Gulf of Mexico, but it never lasted for more than a year or two and usually it did not pass beyond the first frost, when the mosquitoes were killed. With regard to the endemicity of yellow fever it must not be forgotten that as yet we do not know exactly how long the *Stegomyia* may live. A specimen of this variety of mosquito lived in captivity in Havana under the care and watchful vigilance of the army medical department for 105 days. This would make an overwintering of yellow fever at least a possibility.

For over 130 years yellow fever has practically never been absent from Havana. Every year the death lists showed more or fewer deaths. Often there were over 1,000, seldom were there less than 500 deaths from the disease. When the American authorities occupied the city it was hoped that the enforcement of sanitary regulations and the introduction of sanitary measures of various kinds, would reduce the death-rate from yellow fever. It did reduce the general death-rate of the city by more than one-half during the first year and before the American occupation ceased and Havana was handed over to the Cubans the death-rate of the city was less than that of many of the cities of the United States. Notwithstanding the decrease in the general mortality, the yellow fever death-rate held its own. In 1898 there were 138 deaths from the disease. In 1899, 102 deaths, in 1900 over 300 deaths.

Class of Victims.—These deaths from yellow fever took place not particularly among the lower classes of the population of Havana, but from among its most intelligent inhabitants. Many of the victims were people who could be depended on to have taken absolutely all the hygienic precautions possible in order to avoid infection. Nearly one-half of the Governor-General's staff fell victims to the disease. Old inhabitants of Cuba began to say that yellow fever thrived on sanitation and with the new-fangled notions of the Americans, far from being eradicated, it was rather being encouraged in its ravages.

Application of Mosquito Theory.—This was the state of affairs when it was resolved to treat yellow fever entirely as if it were conveyed by mosquitoes and by no other agency. Within two hours after a case of yellow fever was reported, the patient was thoroughly screened from the approach of mosquitoes by netting. All the windows and doors of the house were also screened. Then all its rooms were carefully fumigated by burning pyrethrum powder and after this the bodies of the mosquitoes were swept up and burned, for it was found that sometimes the insects did not die from the fumes, but were only rendered comatose. Neighboring houses were also fumigated. As soon as the mosquito theory was adopted in practice all breeding places for the mosquito—and these would be especially all vessels or pools containing standing water, were drained and cleaned and covered from the possible approach of mosquitoes. Havana's water-supply brings very hard water into the city, and so practically every house had some means of collecting rain water. All these receptacles, tanks, barrels, hogsheads, cisterns, and so forth, made ideal breeding places for the Stegomyia. Most of the houses of Havana also have cesspools and though these are covered and probably not frequent breeders of mosquitoes they were treated with petroleum once a month. All swamps, marshes and so on, near the city were drained or treated with petroleum. The latter method was considered very unsatisfactory and practically a confession of defeat. It is surprising how little drainage is necessary in order to secure the drying up of moist, swampy places, once an effort is made for this purpose. Marshes disappeared as if by magic under the direction of the medical inspectors backed by the liberal encouragement of the authorities and the medical Governor-General. All non-immune patients who entered Havana were inspected every day for six days in order to give assurance that the disease was not developing insidiously. The advisability of this procedure is seen from the fact that 27 cases were thus discovered very early in the disease and were immediately screened from the approach of mosquitoes. These might easily have become sources of infection for a population.

Results.—The results of these sanitary precautions were soon seen. During January, 1901, there were seven deaths from yellow fever. The precautions against mosquitoes were not put into effect until towards the end of February and five deaths took place during this month. In March there was but one death from yellow fever. In April, May and June there were no deaths. One case was reported in July and after a month's interval, another in September. Since September, 1901, there has been no case of yellow fever that developed in Havana itself. This is the first time in over 130 years that Havana has been a full year without yellow fever. The results in the destroying breeding-places for the mosquitoes may be seen from the fact that when the system was introduced 26,000 breeding places were reported. In 1902 close inspection showed only 3,300 all over the city.

Effect on Malaria.—The result of this crusade on the mosquitoes was also a noteworthy reduction in the number of cases of malaria reported. During the year before the mosquito work was begun, 300 cases of deaths from malaria were reported in Havana. During the last year there have been less than 150 deaths in the city from that source. For the present year statistics seem to indicate that there will be less than 90 deaths from this disease. Some of the swampy parts of the city looked hopeless in the matter of prevention of mosquito breeding. It is surprising what a little ditching sometimes serves to make a field dry. It seems probable that Havana can now secure immunity from yellow fever by simple insistence on the precautions that have been pointed out. Within the next decade, perhaps, yellow fever will have disappeared as a factor in the mortality records of North America. There is no reason to doubt that the disease can also be eradicated quite as effectively in South America and especially in Rio Janeiro, which has for so long proved a source of yellow fever for other cities.

Yellow Fever Not Contagious.—Major Ross of the United States Navy said that the whole aspect of the question of the contraction of yellow fever has been changed by the success of the prophylactic measures dependent on the mosquito theory. Ships frequently touch at Havana with cases of yellow fever on board. Sometimes these are carried three miles inland to the hospital, carefully covered with mosquito netting, of course, and there is not the slightest apprehension of the affection spreading in the city. The present object of sanitary regulations is not so much to protect other people from infection, as to protect the mosquito from infection. When a member of a family is stricken with yellow fever, the patient is not segregated absolutely, but may be visited freely by other members of the family. A little Syriac child became affected with the disease on shipboard not long ago and its mother was allowed to be with it during its illness. The other members of the family also visited it. No yellow fever cases have ever developed because of these privileges.

Historical Anomalies of Yellow Fever.—Major Ross said that the mosquito theory of the conveyance of yellow fever explains many things that before were mysterious in reference to the spread of the disease. In 1878, for instance, one of the wooden ships of our old Navy touched at a port in the East Indies in which there was yellow fever. During the voyage north seven cases of the disease developed. The ship was put out of commission and thoroughly cleansed and was not occupied during the winter months. In the springtime a complete set of new stores were put on board and the ship sailed for the tropics. Before she had touched at any port several cases of yellow fever developed. Various theories for the origin of the disease were offered. It was considered that somehow the virus of the disease had been taken up in the woodwork of the vessel or had been fostered amidst the rotting timbers. Now it is easy to understand that what really happened was that certain Stegomyia mosquitoes which had been taken aboard the vessel at the Southern port during the preceding autumn and had found their way to the yellow fever patients during the epidemic had hibernated in the vessel and when the warmer spring weather, especially as the ship ran farther south, came on, they became once more active and the result of their bites was the development of the new cases of yellow fever.

Stimulating Example.—Dr. Walter B. James in discussing Major Gorgas' paper said that what has been accomplished in Cuba should serve as a model for this country, where many things remain to be done in the improvement of sanitation. Fortunately in Cuba the presence of a medical man as Governor-General smoothed over most of the obstacles that usually make sanitary progress slow or even impossible. The time has now come when medical men should make themselves felt in municipal affairs in matters of health. A physician as mayor of a city may accomplish much for the alleviation of insanitary conditions that might be impossible for anyone less confident of the vital necessity for the work.

Cholera in Manila.—The cholera has broken out in the Fifth Infantry which is quartered in Manila. Seven enlisted men have died up to November 12.

BOOK REVIEWS.

A Physician's Practical Gynecology. With five full-paged illustrations and sixty-one illustrations in the text. By W. O. Henry, M.D., Professor of Gynecology in the Creighton Medical College. The Review Press, 1902.

Many excellent text-books have been published lately, on the subject of gynecology, but this little book is not to be classed with them. It would seem that the desire to see one's self in book-form had become a mania, and the disease has become epidemic. Dr. Henry's publication is scarcely worthy of serious consideration as such, and we can see no excuse for its existence. Gynecology is too large a subject to be treated intelligently in so small a volume as is here presented.

In endeavoring to be concise, the author has ignored details which are vital, in an intelligent appreciation of the subject by an uninitiated beginner. Thus the desired end is not obtained, and the object of the writer is lost.

Far better would it have been to have entitled the book, "An Outline of Gynecology," or some kindred name, which might have conveyed the correct idea of the text here printed.

In all probability, the author has taken the outlines from his lecture-notes and filled them in, in certain rare places, in order to construct what he calls a Practical Gynecology. There is no evidence of originality in either the text or illustrations; both are in spots, antiquated. However, the book will doubtless achieve local reputation and will become a very convenient quiz compend for the course in the Creighton Medical College.

Year-Book of the United States Department of Agriculture, 1901. Washington, Government Printing Office, 1902.

There are always a certain number of articles of interest to the medical profession in the Agricultural yearbook and this year's issue is no exception to the rule. Dr. L. O. Howard, the head of the Bureau of Entomology has an excellent article of nearly 20 pages on insects as carriers and spreaders of disease. Dr. D. E. Salmon has a good review of recent experience with the tuberculin test for tuberculosis. Professor W. O. Atwater has a suggestive article on dietaries in public institutions. This is the result of Professor Atwater's investigation into the feeding of the insane and other inmates of New York State public institutions.

Dr. Howard has also an article on experimental work with fungus diseases of grasshoppers which will be of interest to the bacteriologist. In the appendix there is an account of the plant diseases in the United States during 1901 which will prove of special interest to those who consider that comparative pathology including even the diseases of plants may be of importance in suggesting a possible source of diseases among human beings at times. This year's year-book is beautifully illustrated in colors and a credit to the department.

Kirk's Handbook of Physiology. Revised by William Rockwell, Jr., M.D., and Charles L. Dana, A.M., M.D., Professor of Diseases of the Nervous System, Cornell University Medical College, New York; Physician to Bellevue Hospital; Neurologist to the Montefiore Home. Seventeenth American Edition. William Wood & Co., New York.

Kirk's Handbook is too well known to need any words of praise and the fact that this is the 17th American edition is of itself ample proof that the book is filling a place of its own in American medicine. The chapters on nervous physiology are particularly complete, yet eminently concise and are a credit to the American editor. The whole book is beautifully gotten up and is especially well illustrated. The illustrations in color are faultlessly done and none of them are introduced without the manifest purpose of adding to the clarity of the text. The publishers are to be congratulated on keeping the book so well up to date.

Principles of Sanitary Science and the Public Health. With Special Reference to the Causation and Prevention of Infectious Diseases. By William T. Sedgwick, Ph.D., Professor of Biology and Lecturer on Sanitary Science and the Public Health in the Massachusetts Institute of Technology. The Macmillan Company, New York.

The author's opening quotation is we believe peculiarly happy "With all deductions, the triumphs of sanitary reform as well as of medical science are perhaps the brightest page in the history of our century;" and we trust the end is not yet, for there remain the great scourges, of mankind (tuberculosis and syphilis) to battle with, and further and behind the vast quagmire of human ignorance on matters sanitary is to be reclaimed by patient teaching with just such books as the one before us.

We believe this treatise to be one of the best that we have seen for its size. It is simple in statement and yet thoroughly scientific and withal very entertainingly written. The opening chapters on health and disease particularly make a popular presentation, the equal of which we do not know.

We should like to see a popular hygiene for the public schools framed on these lines and expressed in such simple and scholarly language.

The Principles and Practice of Bandaging. By Gwilym G. Davis, M.D., Member of the Royal College of Surgeons, England; Assistant Professor of Applied Anatomy, University of Pennsylvania; Surgeon to the Episcopal, St. Joseph's and Orthopædic Hospitals. Philadelphia, P. Blakiston's Son & Co.

This book is designed especially for students, and the author has skilfully omitted unnecessary details in description. The illustrations are original, and are taken from drawings, so that the essentials are brought out more clearly than they could be by photographs. The author says that in the lower portion of the leg above the ankle and from the largest part of the calf to the knee-cap plain spiral turns are best; it is positively wrong to make reverses here, and figure 8 turns are unnecessary. We have not seen, for the student, a more suitable book on the subject.

A Text-Book of Materia Medica, Therapeutics, and Pharmacology. By George F. Butler, Ph.G., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, etc. Fourth Edition. W. B. Saunders & Co., Philadelphia and London.

The title of this book is in a sense broader than its contents. It is essentially a work on materia medica, and is as complete and as attractive a text-book as the student of medicine can desire. The term pharmacology is employed by the author in the restricted sense of pharmacodynamics, or the effects of physical and chemical agencies on living organisms. Aside from certain special articles or chapters, to which reference will hereafter be made, a statement of the physiological action of the drugs considered in this work is its sole claim to the title of a text-book of pharmacology. Similarly with regard to therapeutics. The chief therapeutic uses of each drug are indicated lucidly and with commendable judgment; there is a useful clinical index, and the drugs discussed are grouped according to their therapeutic affinities, but electrotherapy, hydrotherapy, phototherapy, dietetic therapy, kinesotherapy and suggestion therapy are hardly more than mentioned, and in this edition for the first time. Their extension would be advisable.

As in the previous editions the pharmaceutical section is singularly complete. The opening chapters have been remodeled so as to be brought into accord with recent biology. The chapters on organotherapy, serumtherapy and cognate subjects have been enlarged and revised and much improved, while no exhaustive presentation of these subjects is attempted, facts which are clinically important are stated in a manner which will not confuse the beginner and which will enable him subsequently to pursue his study of these subjects intelligently. The same remark applies to an important addition from the pen of Dr. Martin H. Fisher, in which are discussed the newer theories of electrolytic dissociation and in which the author defines the relations of these theories to pharmacotherapy. Diagrammatic aids are not often employed in works on materia medica; a number of them have been introduced here, however, to illustrate the mechanism of physiological action. The one humorous touch in the book is the inclusion of two photographic plates of dead dogs. It is alleged that one was killed by strychnine-poisoning, while the other is supposed to be a victim of the poisonous effects of gelsemium. We strongly suspect that both dogs are shamming. The merits of the book are sufficient to insure its sale without these useless pictures.

NOTHNAGEL'S ENCYCLOPEDIA OF PRACTICAL MEDICINE. DIPHTHERIA. By WILLIAM P. NORTHRUP, M.D., MEASLES, SCARLATINA, GERMAN MEASLES. By THEODOR VON JÜRGENSEN, M.D., Professor of Medicine at the University of Tübingen. Edited with additions by WILLIAM P. NORTHRUP, M.D., Professor of Pediatrics in the University and Bellevue Hospital Medical College, New York, Attending Physician to the Foundling, Willard Parker and Presbyterian Hospitals, New York. Authorized translation from the German, under the Editorial Supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. W. B. Saunders & Co., Philadelphia and London.

THE readers of this volume of the translation of the Nothnagel Encyclopedia will no doubt echo the opinion of the editor-in-chief of the series who says in his preface that while regretting the necessity which compelled the substitution of another article for the original one on diphtheria, this change has entailed no loss in value to the volume. The disease in question is one whose somber annals have been so profoundly altered for the better through the genius of a New York physician that it seems especially fitting that its discussion should have been entrusted to one who for years was associated with the gifted inventor of intubation, and it is pleasant to see that Dr. Northrup presents his article on diphtheria as a tribute to the memory of Dr. Joseph O'Dwyer.

The plan followed in treating the subject is the same as has been adopted by the other authors in discussing the topics allotted to them. History, Etiology, Pathology, Symptomatology, Complications and Sequels, Course, Duration and Outcome, Diagnosis, Prognosis, Prophylaxis, Treatment and Bibliography are the headings under which the author has grouped what may well be termed a monograph of the disease. The discussion of the bacteriology is very complete and in addition to numerous excellent photographic reproductions of individuals and colonies of the true and false organism under varying conditions of growth and environment, the technic of making and differentiating diagnostic cultures is fully described. The pathology also is considered in great detail and beautiful reproductions of microscopical preparations of the lesions in various organs are provided. The statistics bearing upon the prognosis are especially interesting and show that since the introduction of the antitoxin method the mortality has fallen from 70 per cent. to 16.6 per cent. That the influence of the time of beginning treatment is very marked is shown by a table which gives the mortality of cases coming under observation on the first day of the disease as 3.5 per cent., with rapid increases for each day of delay up to the fifth when it becomes 35 per cent.

The important subject of prophylaxis is treated according to the tenets advocated by the New York Board of Health, and statistics are given which strikingly show the value of prophylactic injections of antitoxin after exposure or during epidemics. The section on treatment naturally gives very extended accounts of the advantages of antitoxin and intubation. It is in his description of the latter subject that the author has risen to his highest pitch and this portion of the article stands unsurpassed for lucidity of description of the technic and force of argument in favor of its universal adoption. The illustrations are marvels of clearness and execution and the use of skiagraphs to show the progress of the tube from mouth to larynx is decidedly ingenious.

The value of the section on measles is greatly enhanced by the introduction of much information derived from the records of the Faroe Islands epidemic which for geographical and sociological reasons furnished unexampled opportunities for study. A point of interest in the author's chapter on treatment is the vigor with which he warns against the dangers of the old-fashioned belief that the measles patient should be kept in a dark room and *à propos* of this he says "the blessing which light and air prove to those who are ill with measles soon becomes apparent to even an ignorant observer." The American editor has made valuable additions on the subjects of Koplik's spots and the hematology, both of this disease and of scarlatina. A point that is as yet little known, but which is of great diagnostic value is the hyperleucocytosis which Renaud says begins with the infection and reaches its maximum eight or nine days before the eruption—that is, four or five days before the contagious period. The section on scarlatina is no less deserving of praise than its companions and represents a complete account of the modern knowledge on this subject. The American editor has here also made many useful interpolations, notably that on page 611 introducing the methods of quarantine and disinfection in use in the Hospital for Scarlet Fever and Diphtheria Patients in New York.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

A COMPEND OF HUMAN PHYSIOLOGY. By Dr. A. P. Brubaker. 11th Edition. Demi 8vo, 270 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

TREATISE ON DISEASES OF THE SKIN FOR THE USE OF ADVANCED STUDENTS AND PRACTITIONERS. By Dr. H. W. Stelwagon. 8vo, 1,125 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

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ORIGINAL ARTICLES.

OBSESSIONS: FIXED IDEAS; INDECISIONS; IMPERATIVE CONCEPTIONS; ABULIAS; PHOBIAS.*

BY THEODORE DILLER, M.D.,

OF PITTSBURG, PA.;

NEUROLOGIST TO THE ALLEGHENY GENERAL HOSPITAL.

"Obstupui, steterunt quecomæ et vox faucibus hæsit."

"I was amazed, my hair stood on end and my voice stuck in my throat." VERGIL, *Æneid*, II, 774.

"I am not so good a naturalist (as they call it) as to discern by what secret springs fear has its motion in us; but, be this as it may, 'tis a strange passion, and such a one that the physicians say there is no other whatever that sooner dethrones our judgment from its proper seat; which is so true, that I myself have seen very many become frantic through fear; and, even in those of the best settled temper, it is most certain that it begets a terrible astonishment and confusion during the fit. I omit the vulgar sort, to whom it one while represents their great grandsires risen out of their graves in their shrouds, another while hobgoblins, specters and chimeras; but even among soldiers, a sort of man over whom, of all others, it ought to have the least power, how often has it converted flocks of sheep into armored squadrons, reeds and bullrushes into pikes and lances, friends into enemies, and the French white cross into the red cross of Spain! * * * * The many people who, impatient of the perpetual alarms of fear, have hanged or drowned themselves, or dashed themselves to pieces, give us sufficiently to understand that fear is more importunate and insupportable than death itself."

THESE words of Montaigne, written over 300 years ago, show that the great philosopher very fully realized the far-reaching importance of fear in its influence upon human action. It is to be noted, too, that he distinguished between normal and morbid fear, and recognized the extremes of the latter which may be encountered. Probably no element is so constantly associated with the various obsessions as that of fear, while in some of them it constitutes the chief, if not the sole, element. It therefore seemed to me that the words of the great essayist might well form the text for this paper.

Before going into a description of the various obsessions it might be well to glance at certain mental features of what we ordinarily call the normal man. Man, like all other living organisms, is essentially a reflex being. Multitudinous reflexes, simple and complex, are of daily occurrence. Even the higher psychical processes are doubtless reflex in character, although of course much less apparently so than those of the lower order. Into a reflex action, as is well known, these factors enter: Stimulus, afferent path, receptive center or centers, efferent path, and lastly, the end-organ. Yet this is not all, for still another element enters into the mechanism, which in the case of mental operations in the normal adult is most striking; namely, that of inhibition.

"From various excitations of the sensibility, stimuli pass to the nerve-centers, where they finally produce, after a series of more or less complicated operations, two kinds of reactions; a reaction of arrest or inhibition, which suppresses certain others; and the reaction of reinforcement or impulsion, which transmits the others to the motor organs, to be transformed into acts." (Regis.)

"This function of inhibition in suppressing the centripetal impulses or in augmenting them, constitutes in brief what is known as the will." (Morel, Regis, Ribot, Janet.)

The obsessions, therefore, are diseases of the cerebral inhibitory apparatus; that is, of the will, if we may presume that the other elements in the reflex are functionating normally. It is, however, evident that the afferent or efferent paths or end-organ may be defective, in which case the will would be affected only secondarily or negatively.

In the young child, as is well known, a stimulus is promptly converted into a reflex expression, either motor or glandular; and the emotion awakened by it is plainly in evidence. But as the child grows older its power to suppress stimuli becomes more and more apparent; and the adult is daily suppressing an enormous number of them, since his inhibitory power or will has become fully developed; yet we cannot conceive of a man whose physical and mental mechanism are perfect and whose operations are flawless. So all of us at times, exhibit defects of control or defects of will-power, which we recognize more or less clearly. Who has not experienced unreasonable fears and doubts, felt impotent, or acted upon rash impulses? Who of us has not felt doubts and fears and entertained thoughts which he would be ashamed to relate? Montaigne has said that "There is no man so good who, were he to submit all his thoughts and actions to the laws, would not deserve hanging ten times in his life." Occurrences of the past, painful or disagreeable, recur to all of us, often accompanied by marked emotional experience. Our imaginations create for us events or situations in which our emotional natures partake.

Thoughts as to what we could or might do enter our fields of consciousness which we would be heartily ashamed to mention. Moreover, these obsessive ideas and emotions often express themselves in actions. The desire to count objects, as *e.g.* telegraph-poles, fence-posts, buttons, window-panes, and various other objects, is common to many. The impulse to avoid the cracks, or to step upon them, in walking upon a flagstone pavement, is a frequent experience. Many normal individuals touch fence-posts, door-panels, etc. Among the fears frequently observed in normal persons is that of thunderstorms, of high places, of crowds, of dirt, of disease, of animals, or of blood. All of us experience doubts more or less constantly; and even when somewhat unreasonable or ludicrous we scarcely consider them morbid. A few examples may be mentioned: A man locks his safe carefully, and then goes back to try if it really is locked; another carefully turns out the gas, and then goes back to see whether it really is out; another, after carefully stamping his letters, will look over them to see that they are all right, and then, before posting them, again go over them; another will draw his check, seal it in an envelope, and then tear open the envelope to ascertain whether it is correctly drawn. We are all acquainted with the man who, after making a decision in the affairs of life, at once begins to doubt whether he has acted wisely.

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* Paper read before a joint meeting of the Lawrence, Mercer, and Beaver County Medical Societies, held at New Castle, Pa., July 3, 1902.

These various ideas, emotions, doubts and impulses, to which everyone is subject, may become so greatly exaggerated and so persistent in their recurrence that they must be considered as morbid expressions, and even as part of or constituting a veritable insanity. Probably in the consideration of no other set of symptoms is the observer so clearly able to note the various degrees of diseases of the mind, ranging from the slightest and most insignificant, through the various shades, until the frightful homicidal impulses of the insane epileptic or alcoholic subject are reached.

Since the term obsession is employed with different meanings, I wish to state that in this paper it will be designed to include a group of mental symptoms more or less allied, occurring in various psychical states, which have been called by various writers fixed ideas, impulsions, abulias, besetments, imperative conceptions, and phobias. Regis* accounts the various obsessions as expressions of neurasthenia, and Berkeley† apparently adopts the same view. While there can be no doubt that the obsessions are very frequently seen in neurasthenic states, my own observation is that many of them are not so associated. Some arise from the melancholic soil; others are expressions of hysteria; in other cases the symptom seems to be the sole expression of physiological degeneration; while in still others the symptom is seen in individuals who present no other evidence of disease or degeneration and are apparently normal. Of course, if it is claimed that the symptom itself is evidence of the existence of neurasthenia, the argument at once ends. Certain obsessions are frequently seen in epilepsy, a disease which, so far as I am aware, has never been accounted as belonging to the neurasthenias. They are no doubt seen in almost all of the acute and many of the chronic insanities. It is, however, my purpose to consider the obsessions only as they present themselves in patients outside the asylum, many of whom are clearly not insane, others among whom must be accounted insane, and still others of whom it may be said that they belong to the great class of "borderland cases," *i.e.,* they stand midway between sanity and insanity. By some writers, as *e.g.* Brower and Bannister,* these three groups are accounted as one and as belonging to the "borderland and episodic states."

Obsessions may be conveniently divided into five classes: (1) Of doubt; (2) of fear; (3) of impulse; (4) of miscellaneous ideas; (5) abulias.

The obsessions of doubt (*folie du doute*) or indecision are very common, and include, besides the doubts concerning smaller matters, those upon metaphysical and religious subjects.

Obsessions of fear are as numerous as the hopes and desires of the human mind. Many of them have received special names, as *e.g.* misophobia (fear of dirt); pathophobia (fear of disease); hematophobia (fear of blood); agoraphobia (fear of open places), etc., etc.; but the naming of the different fears is of doubtful value, since it leads to a burdensome nomenclature of great length.

Morbid impulses or propensions (imperative obsessions) is a descriptive term for actions which appear to be purely impulsive and not the outcome of an idea or emotion; although in truth they always do thus arise. Among these may be mentioned kleptomania (impulse to steal), pyromania (impulse to set fires), those of homicide, suicide, dipsomania, etc.

Miscellaneous ideas, painful and otherwise, which are not comprehended under the other heads, are frequently noted.

An abulia in a non-action (*non vouloir*). The term is used to describe the lack of power to execute an act which the individual desires to perform. An abulia is really a reverse or inverse sort of an obsession. This variety of obsession is frequently seen in neurasthenia and hysteria, and at times has a most striking symptom.

The following cases are offered as illustrative of the different varieties of obsessions:

Case I.—A glass-cutter,† aged fifty-eight years, has suffered from rheumatoid arthritis, which for the past five years has confined him to bed. For the past nine or ten months he has been subject to many and various obsessions, and since he has been confined to bed he has made veritable slaves of his wife and daughter, requiring them to act upon his numerous obsessive ideas. The rugs had to be perfectly straight, with the fringe combed out in regular order; all the table and mantel ornaments had to be arranged in a particular manner; sheets and pillow-cases had to be arranged in a very exact fashion. He required that particles of dirt should not only be removed, but that they should be thrown into the closet and the same flushed. He always touched a pulley apparatus above his head twice just before retiring for the night. He read the newspaper at a certain time of day and always for the same length of time.

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* Manual of Mental Diseases, page 246 *et seq.*
† Mental Diseases, page 461 *et seq.*

* Manual of Insanity, page 390 *et seq.*
† This case has been previously referred to by me in a discussion before the American Neurologic Association. See Transactions for 1901, page 206.

Upon my first visit I carelessly pulled a small bit of wool from the blanket. He instantly demanded, in great agitation, that I give it to him; and when he received it he called for his daughter and carefully handed it to her with the command to throw it into the closet and flush the same. This done, he appeared to experience marked relief. But a moment later he noted that the shawl of his sister, who was sitting in the room, was trailing on the floor. Instantly he became agitated and demanded that it should be pulled up off the floor. I told the sister to disregard this request. Moreover, I disarranged the mantel ornaments, turned up the edge of the rug, threw some particles of wool on the floor, directed his wife to pay no attention whatever to his unreasonable requests, and to let the various articles remain as I had placed them. The patient's mental agitation was extreme; but he shortly cooled down. He admitted that there was "no sense" in his requests; but he said he could not help feeling and acting as he did. I agreed with him that his thoughts and actions were foolish, and told him that it was my desire and purpose to help him rid himself of them. He gave a reluctant consent to receiving my assistance. A week later I found a most marked change, which is attributable to faithful cooperation with my plan on the part of his wife. The patient made almost none of his strange demands. For the first time for many weeks he had his hair cut (previously he had feared to have it cut lest some of his brains should come out with it). Two weeks later the same improvement was maintained; and the whole atmosphere of the house had, in consequence, been changed.

Here the group of obsessions had been removed, as if by the blow of a club. I am inclined to believe the success of the treatment in this case (obviously of limited application) arose from the firm stand we made and from our absolute refusal to countenance any of his obsessions in any way whatever. Dr. W. K. Walker offers me the plausible suggestion that the patient, thinking it was utterly hopeless to endeavor to have his ideas carried out, gave way, with the belief that, if there were any evil consequences to arise from the non-action upon his obsessions, they fell on me rather than himself, since I, not he, was responsible for their non-execution.

Case II.—A married woman, aged twenty-seven years, with one child eight years old, had always been well until three years previously, when she was seized with an illness which I believe to have been multiple neuritis, and which incapacitated her for a period of five months.

Five weeks ago, upon seeing the butcher-knife, she was seized with a desire to use it upon herself. This impulsive idea frequently returned, and in order to remove temptation she finally threw the knife into the stove. A little later she saw the head of her child upon a tree, and ever since she has lived in constant dread lest she might kill her child. She had a general fear of impending evil. Neurasthenic symptoms were present, but by no means permanent. It became necessary subsequently to place her in an asylum.

Case III.—A married woman, forty-four years of age, has for several years past suffered much from a "bowel trouble." Instead of telling of symptoms from which she suffered, she related, as evidence of her disease, that her stools were fermented and slimy, and that she is compelled to visit the closet at least twice daily. Only when pressed by questions did she state that she suffered some distress in the epigastric region and from gaseous eructations. She presented no physical symptoms or signs whatever. Her stools were perfectly normal. Dr. Frank Murdock discovered an absence of hydrochloric acid in the stomach contents and treated her with a view to correcting the defective gastric secretion.

Her husband stated that she had gone to many doctors and many resorts, *seeking relief from the condition of fermented stools;* that no subject except that of her physical health interested her, and that upon this she never tired of speaking; that in the beginning of her illness she was almost constantly before the glass examining her tongue.

That the defective gastric secretion does not offer the full explanation of the mental condition of this woman seems evident. I looked upon her as suffering from a fixed idea itself, the most striking expression of a condition of hypochondriasis.

Case IV.—A single woman, aged thirty years, consulted me only yesterday (June 25), complaining of obsessions which had troubled her during the past eight years. Her first obsession was in the nature of a doubt, and this has recurred to her with greater persistence than any other. A box of eggs was broken in her father's grocery store, and she was accused of being responsible for the accident. Her denial was accepted and the matter dropped; but ever since doubts recur to her mind as to whether she told the truth. For a long time the thought often came to her that her leg would be amputated; again, that fire would be placed under her bed; then that she might kill her sister's two children. She is much troubled by general or indefinite fears, fears of impending evil, and many which she cannot describe.

She is somewhat, but not markedly, neurasthenic, and aside from these obsessions, which she regards as "crazy thoughts" and from which she desires to escape, her mental and physical health seems to be fairly good. She works about the house regularly, but these "presentiments," as she calls them, prevent her from taking any pleasure in social intercourse, which she consequently avoids. In her small, asymmetrical, misshapen ears and high palatal arch, stigmata of degeneration are to be noted.

Some time ago, the patient tells me, she applied to an osteopathic institute for relief, and although she complained of no symptoms referable to the abdomen, that cavity was opened, and an operation consisting of the detachment of the womb from the vertebral canal, to which it had grown, was performed. No relief followed this remarkable operation. She observed that although the "presentiments" caused her great mental distress, she submitted herself to this actual operation without the slightest fear or anxiety.

In this case several varieties of obsessions are to be recognized; namely, those of doubt, fear, and impulse.

Case V.—A single man, a foreman, forty-seven years old, enjoying excellent health, has had since childhood a dread of public speaking, which he much regrets, since, as a lodge-member, he has often wished to express his sentiments in the meetings. A recent subpœna to testify in court concerning a matter in which for himself nothing is at stake has caused him no end of dread. He is haunted by the thought of his appearance on the witness-stand, and consulted a physician regarding the matter, who in turn sent him to me for some advice regarding public speaking.

You cannot have listened to me so long without the thought occurring to you that any attempt on my part to instruct him was a case of "the blind leading the blind." However, I did make an effort, but with what measure of success I am at this time unable to state.

In this case the obsession is in the nature of an abulia associated with fear.

Case VI.—A man, aged twenty-one years, the son of wealthy and nervous parents, had been from infancy nervous and restless. He is quite as bright as most young men of his age, and has a robust frame, being six feet tall.

Since childhood he has been periodically troubled with stuttering, which at times has been so extreme that he has been unable to utter a single word. When at play or engaged in any pleasurable occupation, attending a party, or taking part in a discussion with a companion, there is not the slightest evidence of stuttering. He never stutters in the presence of persons, situations and surroundings which interest him. In other words, when his interest is active he is entirely free from stuttering; where he feels tedium he stutters, and in direct proportion to the degree in which he feels it. For example, at a party, on the golf-links, or on the football field he never stutters; when spending a quiet evening with his parents he does. He attended several schools, never stuttering when the school was new to him, but always doing so later on when he became tired of it.

Mentally and physically he seems well enough, although he is of a very nervous temperament. He exhibits the phenomenon of dermography in a very marked degree. Although the phenomena in this case are somewhat different from the obsessions ordinarily so-called, I feel that the underlying mental mechanism is essentially the same.

It seemed to me that it was a mistake to take the boy from a school when stuttering began and place him in another. I advised a regular occupation, with the understanding that he is to stick to it, stuttering or no stuttering. Besides this, I have endeavored to place him under the most favorable mental and physical hygienic regulations. Thus far little or no success has resulted from my efforts.

In this case we have another example of the abuliac form of obsessions; for the boy's trouble consists essentially in the loss of power of action of a certain sort under certain conditions.

Case VII.—A married woman, aged twenty-nine years, mother of three children, had been much worried for three years past. She was thin and pale, but presented no marked neurasthenic symptoms. One night the thought came to her: "How terrible it would be if my child were to die to-night! They would say I killed it." Later this thought came to her and persistently recurred: "How terrible if I should get to going with a colored man!"

Constant, although apparently mild, mental depression existed. I regarded the woman's case as one of mild melancholia, in which obsessions constituted the obtrusive symptoms. Under treatment she made slow but satisfactory progress, and never entered an asylum.

Case VIII.—A man, twenty-one years of age, a clerk, who had always been in good health, came complaining of an odor of feces which constantly emanated from his body. He frequently bathes and changes his clothes to escape the odor. No one has ever remarked upon the smell, but he is sure every one near him must detect it. I observed that the odor was not apparent to me. He explained this by saying that the smell of drugs in a doctor's office would neutralize it. (I may here state that my office contains no odoriferous drugs, and that trial samples of medical preparations presented to me are promptly deposited in the waste-basket.) The act of sniffing does not intensify the odor. Of late he has been using a great deal of cologne to disguise this foul smell. Clerks in the office sometimes twit him, saying, "Why do you not take a bath instead of using cologne?" He believes the clerks must know his real reason for using the cologne.

Here we have an example of a single fixed idea or an olfactory hallucination in an otherwise sane man, who firmly believes in its reality.

In attempting to treat him I told him that no odor existed, but that he suffered from a false sense-perception. But in doing so I now believe that I acted unwisely. After his second visit to my office I received a note from him saying that he had found a doctor who "understood his case," had discovered the origin of the odor, and was removing the same at a specified monthly rate.

Case IX.—A married woman, aged fifty-eight years, is known to have had several lice upon her head six months ago. Since that time she has constantly felt bugs crawling over her body. She feels them in her mouth, nose and ears; she combs bugs out of her hair, picks them off of her clothes and gaiters; she gets up at night to heat her clothes, that she may rid herself of them; she bathes every night for the same reason. She brought combings from her hair and bits of epithelium from her skin, which she gravely asserted contained bugs. She admitted she had never seen the bugs. Lately bugs had burrowed through her skin and become located inside of her body.

She told her story in a most plausible manner, and, in general, appeared to possess a perfectly sound mind. Although there can be no doubt whatever that her ideas regarding the bugs were delusional, she had convinced the members of her family as to their reality, despite the fact that none of them had ever seen a single one.

Here we have a single fixed idea or cutaneous hallucination, existing in an otherwise sane woman, who was unable to recognize it as a false or foolish idea or hallucination.

If there is such a thing as mental disease other than insanity, the last two cases would seem to afford good examples of it. Both of these cases differ from all the others which are related in this paper, in that the fixed idea is accepted as a true one.

These two cases constitute excellent examples of what we may term "borderland insanity;" and yet I think none of you would have been willing to sign a certificate of insanity for either of them.

Hysteria may express itself by a single symptom, as *e.g* that of pain. Two examples follow:

Case X.—A girl, twenty years old, was bruised (not severely) over the left arm. Ever since then she has constantly complained of pain in that region, and fears that an amputation may be necessary to relieve her. An examination revealed the arm to be perfectly normal.

Case XI.—A Jewish boy, aged twenty years, of perfectly healthy appearance, complained of a pain-area the size of a quarter-dollar piece in the right lumbar region, from which he has suffered during the last four years, and for which he has consulted 10 different doctors. A careful examination excluded physical disease and led to the conclusion that the pain was psychical, a fixed idea, the sole expression of hysteria.

Case XII.—A Jewess, twenty-six years of age, married, and the daughter of nervous parents, enjoyed good health until recently. For the past few months she has been troubled by the recurrence to her mind of painful and disagreeable thoughts. These thoughts are various, but always painful or disagreeable, and relate to past occurrences. She is emotionally depressed by them and by reason of the fact that her attempts to throw them off are futile. She describes the thoughts as "unreasonable" and "crazy;" indeed, she refused to state exactly what these obsessive thoughts were, saying she was ashamed of them. She searches for a reason for them; when she finds it, which is sometimes the case, she is much relieved. She has fears of becoming insane.

In this case it seemed to me that there were strong reasons to fear the supervention of true melancholia.

Case XIII.—Some years ago, through the courtesy of Dr. Samuel Ayres, I saw one of his patients, a man aged seventy years, who exhibited the phenomenon of obsessions in an astonishing manner. The patient frequently gave vent to loud, explosive utterances, which often consisted of oaths (a symptom which has been named coprolalia). In the most sudden and unexplainable manner he would suddenly beat his chest. In walking he would suddenly stop, tap the floor or ground several times with his feet, and then proceed. Similarly he often stopped abruptly, knocked on a door or wall several times, and then proceeded.

Here, in passing, it may be remarked that the so-called tics and muscular grimaces are, in all probability, muscular analogues of the obsessions and dependent upon the same defects of mechanism.

Case XIV.—A single man, twenty-one years old, had masturbated from 14 to 16 years, and he attributes all of his subsequent troubles to this indiscretion. Since he gave up self-abuse he has been troubled with various ill-defined fears. These leave him for a time, only to return again. Thoughts which he cannot define or explain, except to say that they are unpleasant, enter his mind. He is often seized with a desire to touch objects, which he has difficulty in resisting. If, when walking with a companion, a passer-by, coming from the opposite direction, goes between him and his companion, he is seized with a desire to go back and around the passer-by, as though to unwind the loop which has been created, as it were. He has a great dread of high places. The recollection of a visit he made to Niagara Falls always brings misery to him. He is beset by many doubts. For example, he turns out three gas-jets every evening, and after retiring worries over them for fear he may not have turned them off properly. The thought of suicide occurs to him, but he has never been able to summon enough courage to actually attempt the deed. He awakens tired, unrefreshed, and lacks ambition and he fears that his state of wretchedness must be apparent to others. To me, however, it was betrayed only by his story, for his conduct, dress and manner indicated nothing unusual.

In this case, examples of nearly all the various obsessions are to be noted; doubt, fear, impulsion, abulia.

Case XV.—A commercial traveler, aged twenty-five years, had masturbated regularly until three or four months before his marriage, which occurred six months ago. For several months past he had been neurasthenic, and much troubled by various obsessions of fear and impulsive ideas. He has a great dread of high places; the sight of a razor or a knife brings with it the impulse to seize it and use it upon himself or others. Upon seeing a group of children he was seized with a desire to jump on them, and he was afraid to approach lest he should give way to his desire. In hanging up pictures the impulse to throw the hammer at those assisting seized him, and he ceased working for fear he might give way to the impulse. In a car the impulse to assault a passenger in front of him took strong hold of him, so that he changed his seat to remove the temptation. These various imperative conceptions have caused him great anxiety, for he is in constant fear that he may commit some rash act. He fears that these obsessions may lead to insanity, and besides this, his reflections upon his habit of masturbation, and the belief that all his troubles are attributable to it, are a source of infinite misery to him. Yet in spite of all his troubles he has been pursuing his regular occupation and he asserted that no one had divined the state of his mind. Under a proper treatment he made very marked improvement, and finally was able to rid himself entirely of his obsessions.

Here, again, it may be remarked, a variety of obsessions are to be noted, imperative conceptions apparently predominating.

Case XVI.—A small, under-developed boy, aged twenty years, presenting stigmata of degeneration, who has masturbated from the age of seven up to eighteen and a half years, labored under the fear that his manhood was gone and that the fact could be read in his face. He worried much because of the smallness of his penis, and believed that if this organ could be enlarged his manhood would return. He had actually undertaken two courses of treatment from advertising quacks, who had promised to accomplish that which he desired. I suggested to him that, being single, he needed a penis for one purpose only, micturition, and outlined a treatment consisting of mental, moral and physical hygiene.

Case XVII.—A married man, thirty years old, with a fairly good family history, and presenting not only a healthy but a rugged appearance, had masturbated up to the age of sixteen years. He attributed all his subsequent misery to this fact. At eighteen he was constantly seized with a peculiar sensation about the head, which he states was difficult to describe, but which felt as though his brain had been seized hold of, while specks flew before his eyes. He stayed himself in great agony, feeling that loss of consciousness was imminent, which, however, did not supervene. Similar attacks recurred at irregular intervals. He avoided crowds as much as possible for fear he would disgrace himself by exhibiting himself in an attack of unconsciousness. He not only dreaded the attacks themselves but feared they would lead to some more serious development. The thought that he had to remain in an office or assemblage-room often caused him great agony. He would walk out to wash his hands, or upon some other simple pretext, in order to test his powers of equilibrium and, as it were, to recover himself in a place of safety. He always felt much easier if he could have a seat or desk near the door, so that he could make his exit without attracting much attention, and the very thought that escape was easy brought comfort to him, or, at least, lessened his misgivings. All the while he felt that the habit of masturbation was the cause of all his troubles, and he believed that if he were to become unconscious the whole cause of his trouble (masturbation) would become apparent and his disgrace be unbearable. This he dreaded even more than death. Flight from his trouble and mighty exertions of the will were, he felt, the only two sources of his preservation from this awful disgrace. He married at twenty-four, hoping thus, in the exercise of his sexual functions in a normal manner, to escape his troubles, and for more than a year thereafter he was free from the attacks and the fear of them. At twenty-five the attacks returned, and for the past five years he has been pretty much in the same condition as that prior to his marriage.

In telling his story he stated that he had never revealed it to any one before; that no one, not even his wife, had remarked anything amiss in him. Lately he had derived considerable comfort from the reflection that these attacks had, during the 14 years he had suffered from them, led to nothing more serious, and that unconsciousness had never occurred.

It was explained to him that masturbation was not in itself responsible for his attacks, but that they were chargeable to his thoughts concerning them and his fear as to their outcome, and that his salvation must come through cultivating more and more the beginning confidence begotten by the thought, in an approaching "attack," that nothing could happen, since nothing had ever happened, and in the reflection that no one could possibly divine masturbation as the cause of his troubles.

It may not be inappropriate at this point to remark upon the unwisdom exhibited by most teachers, parents and clergymen in their preaching against the habit of masturbation. The boy is usually told that masturbation must inevitably lead to mental and physical deterioration, and that its victims carry the evidence of the habit plainly stamped on their faces. Could any teaching be better calculated to engender the train of morbid ideas which have been related in the histories of these last few cases? Is it not in a great measure responsible for an enormous amount of mental suffering among that large class of men and boys whom the advertising quacks speak of as victims of "lost manhood"? It is refreshing to note that Sturgis,* a recent writer on sexual debility, strongly deprecates this false teaching regarding the consequences of masturbation.

In all these cases it is my habit to point out to the unfortunate sufferer, in as forcible a manner as possible, that the great majority of young men have masturbated at some time in their lives; that instead of the practice being invariably followed by evil results, such is only rarely the case, and that it is impossible for anyone to tell from the faces of masturbators, that they have ever indulged in this regrettable practice. At the same time I try in a temperate manner to state what I believe to be the simple truth regarding this disgusting and sometimes harmful practice.

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* Sexual Debility in Man, page 93 *et seq.*

Regarding the treatment of the obsessions generally, no hard and fast rule can be given, since, as is obvious, the measures must be chiefly directed against the conditions from which they arise; although in all cases more or less treatment may be adopted to correct the symptoms themselves. In any case, mental treatment must occupy the first place, and this must be adapted to each individual case. Efforts must be directed toward maintaining the physical tone, and no measures are here so generally useful as the simple rules of hygiene, the use of hydropathy, massage, and electricity. The matter of vacations, rest, exercise, recreations, are all comprehended under this head. The treatment by drugs is of the least importance. Yet it is usually well to give a simple remedy (for which one need never go outside the U. S. Pharmacopœia), such as for instance, tincture of nux vomica as a tonic, and also for its mental impression. Certain cases may of course demand the various drugs for various conditions. But all other things being equal, the simpler the drug-treatment the better.

THE SIGNIFICANCE OF THE TERMS ACUTE AND CHRONIC.*

BY ALLEN J. SMITH, M.D.,
OF GALVESTON, TEXAS;
PROFESSOR OF PATHOLOGY IN THE MEDICAL DEPARTMENT, UNIVERSITY OF TEXAS.

It is with the hope of pardon for refraining from the usual chairman's review of the past year in the work done in pathology that the writer would call your attention upon the present occasion to a matter which, although of minor importance in many ways, is yet one which he feels merits consideration because of the frequency with which the uncertainty of definition of two related terms of constant use in our nomenclature of disease is brought to mind. In each succeeding year the regularly recurring questions which arise among our students as to the formal application of terms have always brought forward the words *acute* and *chronic* as names which by no means appear from the context of writings in which they occur, or from the definition of lexicographer or lecturer, to be invariable and consistent in meaning and one has regularly to point out the evidences of a progressive change in their various applications. In spite of the Bible and Shakespeare our language is by no means fixed, and while new words, representative of new ideas, are constantly being added, many an old term is coming to be burdened with significance it was not intended to convey, either originally or by the authority of our older lexicons. The former definitions of these two words are based upon their etymological meanings, and clearly indicate the elements of *course* and of *duration* of disease. Later there appeared ideas as to the regularity of *symptom presentation* in acute diseases and of irregularity of presentation in cases of chronic duration. Moreover, there was long since added an indefinite correlation of the *degrees of severity* of the symptoms, and in an irregular fashion one may trace the influence of this phase of thought to the present, one lexicographer embodying the idea in his definitions of the words, another neglecting it for a reason which is easily apprehended—the uncertainty of severity of symptoms in acute, as well as of mildness of symptoms in chronic affections. At present there is, and has been for years, a fourth feature gradually appearing, not as yet generally noticed in our dictionaries, but certainly indicated in popular usage of the words—that of a prognostication as to the *outcome* of the disease; and there are few of us who do not realize the feeling of hopelessness which comes to a patient when his affection is termed chronic and the relative hopefulness for complete recovery manifested (if any degree of recovery is possible) when his condition is pronounced an acute one. One cannot help acknowledging the rational basis for this assumed meaning in a large number of affections at least, even though its retention must add to the real confusion which has already more than once arisen, as is natural where one seeks to apply a term of threefold meaning (involving *time, severity* and *regularity of presentation of symptoms*) in a manner meant to convey but one of its phases.

Among lexicographers the following will serve to indicate the uncertainty of definition which obtains in respect to these terms. Quain's dictionary speaks of *acute* as signifying of a disease that it "runs a more or less rapid course and is generally attended with urgent symptoms," a definition covering the ideas of duration and severity of symptoms, although not entirely above criticism in the declaration that the symptoms are even generally urgent. Of course they are often urgent, but very frequently such an adjective can not be employed with the least propriety to describe their degree of severity. This work speaks of *chronic* as "applied to a disease when its progress is slow and its duration prolonged"—a limitation of the more common acceptation, but unassailable as far as it goes. Gould states that the term *acute* is "used of disease having a rapid and severe onset, progress and termination," with which few are likely to agree even in the main. (For example, who will characterize the typically insidious invasion of such a disease as typhoid fever as rapid and severe and its termination as necessarily meriting the same terms?) He appears safe, but not inclusive of the characteristically irregular phenomena of a *chronic* disease course, when he defines it as "long-continued; of long duration; slow of progress; opposed to *acute* and to *subacute*." The Century Dictionary speaks of *acute* in a pathological sense as "attended with more or less violent symptoms and coming speedily to a crisis," although a definite crisis, as is well known, is by no means a constant feature of many essentially acute affections; of *chronic* as "continuing a long time; inveterate or of long continuance, as a disease; hence mild as to intensity and slow as to progress."

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* Read at the meeting of the Texas State Medical Association, 1902.

These three dictionaries may be taken without much hesitation as fair representatives of the position of lexicographers among the English speaking people so far as such terms are concerned; yet one cannot avoid the very real inconsistencies expressed in these selections, and questions must arise as to the correctness of one or two such expressions, setting aside the difference of limitation in the use of the words as indicated by these authorities. Moreover, while in two of the above quotations there is reference to the matter of outcome of disease, it is for the most part not referred to at all; yet, as the writer has suggested, such a feature does really exist, at least in a tacit manner, in our conversation, and now and again in our professional writing. What physician, when he employs the term *chronic* in connection with some particular case, does not realize, if he thinks of it at all, a possible basis of excuse for failure to accomplish a result he might hopefully regard were the disease one of shorter duration and more regularity in its presentation of symptoms? Whether one will or will not formally declare that, aside from the lexicon definitions mentioned, he will attach to the term chronic in pathology the relatively hopeless outlook for recovery, such a meaning surely obtains in the minds of non-medical persons and in some measure in his own.

When, in the early part of his professional life, the writer entered a term of service as interne in one of the large insane asylums of the East, he was very naturally puzzled as to the basis of classification of the cases in his charge into acute and chronic forms of insanity. Some cases of so-called acute insanity presented histories of by no means rapid or severe onset; some were decidedly mild, so far as the matter of symptom intensity was concerned; and most by no means rapidly approached anything similar to a crisis. Many of the chronic cases were of the most intense type; some gave a history of relatively rapid onset. On inquiry the information was given by the medical officer in charge that an artificial time limit was accepted by him, as well by others, in separating these two groups. When a case had progressed without decided evidence of improvement for the period of one year it was no longer regarded as acute, but set down as chronic. How far such an absurd limitation prevailed among alienists at that time the writer does not know; he could not then nor can he now accept it with equanimity. The more common definition received at present, and one which also accords with the suggestions made above, is that a case of insanity may in a clinical sense be regarded as in the *acute* stage as long as no mental deterioration is distinctly apparent along with the usual mental perversions of the disease, and that such a case merits the term *chronic* when any degree of terminal dementia becomes recognizable. (Such differentiation cannot be held perhaps except in a clinical sense; since long before the appearance of a terminal dementia there may exist in this or that case structural alterations of an essentially irrecoverable type.)

It seems unnecessary to multiply illustrations of such faults in nomenclature arising from the confusion indicated; but the following example is of such real importance that it may well be considered as a reason for greater precision. There can be no doubt as to the interpretation placed upon the term chronic by the laity, when applied to the forms of renal disease classed in the group of Bright's disease. Without precise explanation at the hands of the diagnostician a sense of hopelessness and irremediability at once seizes upon the unfortunate subject, and even though the condition be a relatively tractable one, after the most explicit description and outline of affairs the patient is apt to remain dissatisfied and depressed. This same feeling, to the harm of the patient, is likely to be present in the mind of many a physician who has had his ideas moulded by our standard text-books, and many a case is given over as relatively unamenable to curative measures, so that it pursues a course tending to actual irremediability, when with a different mental attitude on the part of the physician, together with constant care, supervision and active treatment, there might well have been a different outcome. Not with the least intention to criticize this one book, which is merely an example of many that are, and deservedly so, regarded as standard and authoritative, the text-book on medicine by Osler may be offered in evidence of the point in question. The writer is unwilling to accept the general classification of Bright's disease presented by Osler, and to a greater degree the more complicated ones of a number of other authors; but except in a limited way this need not in the present connection be called up. The major error of the text, as it appears to the writer, lies in the fact that the author, in attempting to consider all acute cases of this group under one form, and all of chronic duration which involve the parenchyma under another single heading, has forced an artificial separation of the early and late cases of parenchymatous degeneration (with or without inflammatory combinations), and has grouped the early cases of this degenerative condition with the non-degenerative acute form of Bright's disease on the one hand, and on the other the later cases with the more serious, fatty degenerated and contracted cases. This is a confusion unnecessary, either clinically or anatomically, and one which must in some measure conduce to the chances for unfavorable result in the management of the case.

It appears to the writer that there are two types of acute Bright's disease, well distinguished from each other in etiology, semeiology, anatomy and prognosis in perfect examples, and while very frequently in the first few days of the course there is apt to be some confusion of the symptoms, the two types become separated in a short time, so that the great majority can be diagnosed without trouble. These two forms are the acute nephritis of infectious processes and the acute nephritis arising from non-infectious causes. The former has as its basis a greater or less degree of cloudy swelling of the cortical epithelium, with which are associated in a variable measure hyperemia (sometimes hemorrhage) and connective tissue multiplication. The second form presents practically only these latter or purely inflammatory changes. The first is the "large white kidney," modified more or less in its gross and minute appearances by the hyperemia which at first is apt to be associated (but which may at times be practically absent), and is either a large, pale, flabby organ or a large, mottled (red and white) flabby kidney; while the second is the "large red kidney," a large, deep-red organ, more or less tense and without the flabbiness which is characteristic of the first. On section the former usually shows a distinct differentiation of the cortex from the medulla, the cortex swollen and pale or mottled, the medulla red, and a moderate amount of blood may drip from the cut surface; or the whole organ may be uniformly pale on section, the cortex poorly defined but thick. The latter form over the cut surface is uniformly red, and drips freely with blood, and the swollen condition of the cortex is not present in any marked degree. In the matter of onset the former type always becomes manifest in the course of some infection, usually after the period of acme has proceeded for at least several days, and varies in the rapidity of its development; while the latter follows some such cause as acute alcoholic excess along with exposure (as where a drunken person lies in his stupor upon the ground, perhaps in the gutter, during a cold night), or excessive doses of such irritants as cantharides, turpentine, the mercurials or similar substances, and for the most part its inception is immediate, developing in the course of a few hours. The large white kidney of the infections, if associated with much inflammatory reaction from the irritant toxins brought to it in the blood, will probably be sufficiently congested to produce at first a variable degree of suppression of the urine, and hematuria may be present from the same cause. During such stage, the urine will be highly albuminous, and the altered epithelium will be readily detached, appearing free in the urine or attached to the numerous casts; but without such congestion, as is possible, it is not to be expected that these severe symptoms of suppression and hematuria will prevail, such cases often being unrecognized except by close examination of the urine. In the non-infectious type, the typical large red kidney, the element of congestion is an essential feature, and suppression varying with the degree of blood stagnation in the kidneys together with a variable hematuria, must be regarded as constant features. From a prognostic standpoint the large white kidney may under favorable conditions pass to recovery in the course of a number of days or weeks; or on the other hand it may be fatally terminated in its first few days from uremic poisoning. In by no means all the cases in which death does not occur does the kidney promptly return to normal; but after a prolonged presence, varying from months to years, it may pass from the albuminous alteration of its cells to a fatty degeneration, the basic condition of the real chronic parenchymatous nephritis or "fatty and contracted kidney." On the other hand, the large red kidney, the acute non-infectious nephritis, if it does not kill in the first few days from urinary suppression and consequent anemia, is usually quickly and completely repaired; although the writer is satisfied that a single attack may sometimes be the starting-point for a chronic formative process leading to the ordinary "red granular kidney," and that should steps to the recurrence of the acute process be afforded by indiscretions on the part of the patient, this possibility becomes the more distinct. If it be granted that such distinctions warrant the assertion that at least two separable types exist in the description of the text in discussion (and these types are really indicated as varieties of one and the same process in the text-book of Osler), the writer does not hesitate to call attention to the fact, not infrequently verified in clinical study of cases, and followed in some instances by subsequent autopsy findings, that such parenchymatous degeneration or cloudy swelling of the kidneys, and of other organs as well, may continue as such more or less indefinitely for months or even for two or three years, without showing distinct alteration of the cellular protoplasm into fatty substances. Should such a case, extending over a course within these limits, be placed under conditions favorable to cellular nutrition, the experience of the writer would indicate that at any stage, judging from the resumption of a normal function, the normal structure of the affected parts may be resumed; although on the other hand, at any time during the same period, should cellular metabolism be seriously modified or cellular nutrition greatly hampered, the cloudy swelling of the cells may apparently advance to the more serious and irrecoverable condition of fatty degeneration.

As is well known, the fatty degenerated form of nephritis, the "fatty and contracted" or "secondarily contracted" kidney, is a really hopeless form of Bright's disease, as far as hopelessness may be asserted in the absence of an actually moribund state. Yet the text under consideration, as well as others, barely separating them as subdivisions of the same process, associates such terminal conditions in one group with those instances of the cloudy swollen kidney which happen to have continued for some period beyond the course of the infection which they originated, and the more serious prognosis, the disposition of a careless physician to give up to what he accepts as inevitable, comes to be attached to the latter cases, possibly recoverable, as well as to the former, which may properly be regarded as hopeless. It is in this feature that the writer finds the special application of the terminology above discussed. The types included by Osler under the general group of chronic parenchymatous nephritis should, the writer would urge, be clearly separated, and to these cases the terms *acute* and *chronic* should be applied as indicating in the one variety a relatively hopeful prognosis and in the other the idea of irremediability, apart from the questions of duration of course or the uniformity or severity of symptoms. He would suggest that a cloudy swollen kidney should and fairly can be denominated acute Bright's disease, whether it has had a duration of two days, two weeks, two months, or two years—just as long, in fact, as there is no evidence that the recoverable type of cellular change known as parenchymatous degeneration or cloudy swelling continues without having become complicated or replaced by the serious and essentially terminal degeneration known as fatty degeneration. And the writer would also urge that, of the kidneys whose parenchyma is the main seat of change, only those be accepted as chronic which present evidence of such fatty change. To the writer's mind there is no question that Osler confuses these two types in his description of chronic parenchymatous disease. They are specifically referred to as subdivisions under the terms "large white kidney" and "secondarily contracted" or "small white kidney." There is, however, no serious difficulty in clinically differentiating them, except during the period of transformation of the first into the second—a period, of course, ordinarily of some duration. A patient having recovered from the postinfectious anemia does not present the cachectic appearance, even though his kidneys are in a state of cloudy swelling, which is characteristic of the terminal degeneration and contraction of the kidneys. The cardiac notes and pulse in the first do not denote the vascular tension apt to be present in the latter; the alimentary and general nutritive disturbances of the first are not likely to be comparable to those of the second. The urine is ordinarily distinctive. The specific gravity and the content of urea are less disturbed ordinarily in the first than in the second; the proportion of albumin is not so high; the casts are limited to the hyaline, granular and epithelial types, while in the second there are found oil casts, compound granule cell casts; typically, too, in the latter there are found more broad casts than in the former.

From such presentation then it seems clear that in this instance, based merely upon our older conceptions of the terms *acute* and *chronic*, there has occurred an unwarrantable separation into two groups of cases of one essential disease process and one of these groups has been confused with a disease very different from the formation of the author's *acute Bright's disease.* There is likewise an equal confusion of the more protracted cases of the same essential process with a far more serious and an irremediable type of degenerative affection of the kidneys. It would seem much preferable to accept the idea that the term *acute* does not necessarily mean any actual period of time in such instances; but that in the interest of a clear recognition of real pathological conditions all cases of cloudy swelling of these organs should be retained in a single group, spoken of as *acute parenchymatous nephritis,* because of the possibility of limitation within the life of the patient, and that they should be separated on the one hand from the large red kidney (which may fairly be denominated an *acute formative nephritis*), and on the other hand from the true *chronic degenerative nephritis* or fatty and contracted kidney, to which we know no limitation save in the death of the patient.

Other illustrations of similar confusion and sometimes absurd application might be cited; but what has been above outlined seems fairly expressive of the objections which can be brought forward. The writer is no lexicographer, and has a natural disinclination to become a modifier of forms which time and custom have established or sanctioned; but in this there appears a real need of some modification, which indeed has already been accepted tacitly, and only needs formal recognition and application. With such a sense it would seem that some definition as the following might well be assumed for these terms:

Acute, as applied to a pathological process indicates of such a diseases that *it runs a fairly regular and limited course; such course being frequently, although not necessarily, attended by severity of symptoms, and the limitation being possibly in recovery.*

Chronic may be applied in conditions *presenting no definite duration, more or less irregularity in the presentation of symptoms, a variable severity of symptoms, and ordinarily limited only by the death of the patient.*

NEURASTHENIA.*

BY JOSEPH M. AIKIN, M.D.,

OF OMAHA, NEBRASKA.

THE condition I desire to discuss under the name of neurasthenia is not new, but its clinical boundaries have been more clearly defined, its cause, course, and management better understood during the two decades just past than during 100 preceding years. Conditions referred to by Hippocrates and his successors in medical history show that the affection was recognized but very imperfectly described under a multiplicity of names.

In 1870 the first accurate description of this disorder was placed on record by Beard, an American physician to whom we owe honor for many superior clinical observations and therapeutic suggestions. He coined the name "Neurasthenia." About this time Bouchet, a French physician, aroused the old world to a more lively appreciation of the distinctive characteristics of this disorder. Like Tesla and Marconi in the realm of electrical study these two physicians gave great impetus to closer clinical observations of the nervous system.

Men appreciating the major importance of the nervous system have, during the past 20 years, evolved and classified a wonderful array of facts concerning the mental and nervous workings of the human body. The clinical results published in journals and text-books radiating from every point of the compass are replete with a discrimination of facts so rationally describing the phenomena of neurasthenia that our knowledge concerning it has progressed by leaps and bounds over that of any other neurosis.

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When the medical faculty of America were aroused by Beard to its perception, Continental physicians styled it the American disease, a product of modern civilization. This is true only in so far as the high nervous tension in the commercial, professional, educational and social life of Americans exceeds that of Europeans. Frequency of the disorder varies with locality in the United States. The higher altitudes of this Northwest country, and strenuous efforts in every vocation, produce a greater percentage of neurasthenics than is found in the Eastern and Southern States where humidity prevails and less nervous energy is expended.

It is uncommon before the twentieth and after the fiftieth year of life. It is of about equal frequency in the sexes. All forms of nervous energy are affected, and fatigue comes more quickly than in health. The vital forces are below par in the individual, consequently irritability is more easily established. This is especially noticeable in the mental sphere.

With this history, we must conclude that the condition termed neurasthenia is a primary affection of the nervous system. Doubtless hereditary defects render the individual more liable to bankruptcy of the nervous system than is common to a person of better inheritance under similar environments. A sound nervous system is an inheritance that work and worry can scarcely overturn for any prolonged period.

The unstable constitution is a neurasthenic in latency, needing only some shock, moral or physical, to evolve neurasthenic symptoms. An education that omits the discipline and self-culture which enables a man to properly conserve and utilize his nerve-forces poorly fits that man for the varying vicissitudes of life. The working capacity of an individual varies with his endowments. Educational methods that project the mental in advance of the physical development of the child invite disaster to the nervous system when the race for existence is on. Anxiety and worry depress the patient and at the same time impel him to greater efforts in functionating an already weakened nervous system.

The devoted mother, after weeks of care and watchfulness, finally "goes to pieces" when her vigils have ceased. Her mental desires goaded the nervous system until, like the overtrained athlete, it has gone "stale."

Poisons from without, when introduced into the system and not promptly eliminated, destroy nerve-force, causing nature to cry out by a train of symptoms indicative of depressed psychic and motor power. We have all experienced a mental hebetude and lethargy with varying degrees of discomfort consequent upon indulgence of the palate. In a predisposed neuritic this is a fertile exciting cause of neurasthenia. Overexertion causing muscular strain; stimulation with narcotics; excessive indulgence in the natural or perverted functionating of the reproductive organs, causes nervous fatigue earlier than it would be experienced by the individual in his normal state. When the functionating power of any department, physical or mental, has been exercised to a point beyond the actual capitalization of nerve-force in the individual, neurasthenia is a natural sequence. Neurasthenia is in many instances symptomatic of organic disease.

In the early stages of interstitial nephritis and rheumatic attacks, neurasthenic symptoms are frequent. Probably phthisis is the most common organic affection suggested by persistent neurasthenic symptoms, when neither physical nor microscopical examination will reveal the tubercular germ. Injuries are the proximate cause of neurasthenia in a rapidly increasing number of instances. "Traumatic" neurasthenia occurs most frequently when there has been no gross lesion to the nervous system. It is the result of psychic rather than physical shock. Neurasthenics from trauma constitute a domain for discussion precluded by the limits of this paper.

Hereditary influences through paternal neuroses or organic disorders, like tuberculosis and syphilis, make neurasthenia possible under conditions which, had not inherited depravity prevailed, would have proved sterile. Those who inherit a sound nervous system require greater strain to transform them into neurasthenics. If the want of adequate physical development in our modern high-school course does not cause neurasthenia in all who master the curriculum, the further pursuit of this nerve-exhausting course by business and professional men is evidenced in the sign, "Gone to dinner—back in 20 minutes."

From those who never attempt the intellectual avenues for earning a livelihood the child-labor in stores, manufactories, and sweat-shops, conducted for revenue only, will rapidly supply society with many neurasthenics. Be he educated or ignorant, such pursuits bring physical and mental disaster to the individual.

Pathology.—We know of no pathological anatomy peculiar to neurasthenia. Diminished dynamic energy and lessened recuperative power in the nervous structures is the condition we meet. "Impaired metabolism, with accumulation of waste products, which in turn accumulate in the blood, give rise to auto-intoxication especially affecting the nervous system, and the functions over which the nervous system presides are correspondingly impaired." With this idea in mind we are better prepared for a rational apprehension of symptoms and their requirements in treatment.

Symptoms.—The symptoms are very easily arranged under motor or sensory disorders without implication of any special organs; those manifested by some one of the special senses; those centered in the gastro-intestinal, circulatory, renal or reproductive organs; and the psychical form, which more than all others needs intelligent and patient investigation with a positive and inspiring individuality in the medical attendant and nurse. The division into cerebral, spinal, gastric, traumatic and individual forms of neurasthenia is certainly confusing, if not misleading. Neurasthenia is a condition of lowered vitality in which functional balance is lost, giving rise to many obvious manifestations in some particular part of the nervous system. Deficiency, but never absolute want of function, is always a neurasthenic symptom. Diminished motor action and want of sustaining power is its characteristic. Muscular tremor is a common manifestation, usually excited by trivial muscular efforts. Writing with a pen will quickly induce trembling and fatigue of the muscles occupied. Walking or standing soon causes fatigue. All the reflexes are apt to be increased. Repeated testing of the reflexes is soon followed by diminished response, showing early fatigue of the nervous mechanism involved.

In the realm of the sensory nerves, there is never actual loss of sensation in neurasthenia. Almost limitless subjective sensations, varying from decided pain to all degrees of parathesias and hyperesthesias, are manifested. Paralysis of the sensory, like paralysis of the motor nerves is not in the syndrome of neurasthenia. A feeling of weariness and exhaustion is its characteristic symptom. Paralysis and anesthesias are exceedingly common in hysteria, but are never a part of the clinical picture in a pure case of neurasthenia.

Headache, with varying manifestations, is practically never absent from a neurasthenic. A feeling of pressure in the head, occipital pain and "drawing" sensations at the nape of the neck are the usual complaints. Backache referable to the kidneys is a sensory factor from which the patient seeks relief by a pillow to the back while sitting or reclining. This same expedient is utilized for the protecting of hyperesthetic and migratory painful points along the course of the spinal column. Sensations of prickling, tightness, numbness, heat, cold and soreness are referred to different regions of the trunk and limbs. Heart-beats in the wrong place, breathing with but one lung, apnea, creeping sensations always beginning at a certain point and traversing a particular route in their course, are among the host of abnormal thoracic and abdominal feelings. More specifically, because of apprehension of ultimate sequence with the matrimonially inclined, are the complaints referred to the reproductive organs. Diminished sexual power is a more frequent complaint of the male than of the female.

Eye-symptoms of fatigue, blurring of the letters, and photophobia, cause apprehension of a serious sequence in these organs. The auditory nerve is easily irritated by sounds of common occurrence not annoying to one in health. Perversions of the olfactory and gustatory sense give rise to a suspected lesion in these organs.

Gastro-intestinal disorders, variously described, but commonly known as "nervous dyspepsia" are indispensable in the syndrome of neurasthenia. The eructations, gas-formation, and obstipation, are proximate results of unwise alimentation, the neuritic symptoms being effects rather than causes of the indigestion.

In the circulatory system a rapid tumultuous heart, a weakened peripheral pulse, cold extremities and varying vasomotor changes are the rule.

Neurasthenics have but little desire for water. The urine is scant, frequently voided, irritating, and productive of vesical discomfort during micturition. With diminished volume, the normal of solid excretions increases the specific gravity. If to this be added the excess of solids, called by some "the ashes of the nervous system," caused by the high nervous tension, the specific gravity rises to an alarming height. In the hysteric, the urine is copious, light-colored, and as a rule of low specific gravity, even when it is retained, as is often the case, many hours beyond the normal time for the evacuation of the bladder.

Last, but of greater importance to the physician, are the symptoms pertaining to the psychical side of the neurasthenic. Like the motor and sensory, they also are characterized by weakness and irritability. Prolonged mental effort is impossible. Attempts at centering the intellectual faculties on any one subject for even a brief period, result in a projection of thoughts as uncertain in course and unlike in color as the projectiles from a lot of fireworks. Ideas do not arise with their usual vigor and rapidity, causing the patient to believe that he cannot think.

In hysteria, ideation is active, conclusions quick and positive. The neurasthenic is introspective and prospective; self-interests are paramount to those of his family or dependents. He ever sees new symptoms of an appprehensive nature. He is anxious, and without solicitation relates every symptom in detail. Each subsequent interview, he adds new symptoms and embellishes the old. He shuns motor exercise, but studies the easy-chair or recumbent position with complacency.

The hysteric talks only when interrogated. With him, voluntary information is at a premium, but clownish contortions can be seen without request.

The neurasthenic is depressed, but ever anxious for recovery. He consults many physicians, is not suicidal, and is free from delusions that reasoning will not dislodge. The true melancholic is depressed without hope, declines medical aid, is often suicidal, and his delusions are positive; often they are even intensified by the rational logic of friends who would dispel them.

The neurasthenic can always be made to recognize the baselessness of his fears though he be unable to banish them. If these apprehensive ideas are beyond the power of liberation by the action of mind over mind, they have passed from neurasthenia over the borderland into insanity. In the neurasthenic person sleep is commonly disturbed. The patient has difficulty in getting to sleep, or goes to sleep quickly and wakes at regular periods when all nature should be sleeping, and cannot resume his slumbers until the hour when all well-regulated people should be awake. Even if sleep comes for a sufficient number of hours he awakes with a feeling of great muscular and mental fatigue.

If the hysteric lie awake she will make sure that her retinue of attendants do not sleep during the night, but the patient will enjoy the sleep of the righteous during the entire day following. Fear from a subjective conception and danger from an objective perception characterize the neurasthenic, but present no terrors to the hysteric.

Treatment.—It is often said that with the diagnosis of nervous disorder the physician's usefulness ends. Never was a more erroneous conclusion announced. The amount of good that can be done in nervous affections usually regarded as intractable measures favorably with results in any other department of medicine. What nervous disorder is less responsive to treatment than we see any day in cirrhosis of the liver, hepatic disorders, or cancer in any tissue? Given an appreciation of the conditions to be met, a knowledge of the measures that experience has shown to be of value, with judgment and art in their application to selected cases, and we see results no less brilliant than in any other department of medicine. We must know that cell-life in nervous tissue more than any other requires a long period for repair.

Every physician is aware that neuritis following erysipelas, the paralysis consequent upon diphtheria or typhoid, and the neuritic affections incident to a dislocation or fracture are much longer in healing than the original disorder. Let us manage our neurasthenic patients so as to conserve their nervous force, with a consistency comparable to the restrictions we put upon expenditure of their physical force during a purely medical or surgical case.

The division by Berkley into the hygienic, dietetic, and medicinal treatment of neurasthenics is an admirable one. The hospital with its environments and the private home where trained nurses are admitted make possible the systematic application of these measures. Success in the treatment is wholly dependent upon environments and time, with a knowledge of resources and art in applying them as the exigencies demand. When we obtain compliance by the patient with the necessary conditions, as in serious surgical cases, our ability for relief or cure will be at a premium.

The use of the bath, its temperature, duration, frequency and the time of day it should be used, must be graduated to the individual. The nervous system is responsive to climatic conditions. If arteriosclerosis be not present or probable those excitable people whose emotions are easily swayed generally improve in the higher altitudes. Those of the bilious type and slow digestion do better in the localities where cutaneous elimination is facilitated. The daily plan of each patient for recreation, work and sleep must be systematically prearranged by his physician, and its performance initiated but not executed by the nurse. The patient's judgment is not a safe guide in these matters. Neither is he to decide his dietary. The majority of neurasthenics are anemic, have capricious appetites, are apprehensive, and actually increase their sufferings by starving their systems. Three meals daily are not always best for those of slow digestion. Some with noticeable digestive troubles do better if fed regularly four to six times daily on foods requiring but little digestion. It is best to begin feeding them a limited variety, adding to the list suitable articles as the case will permit. This pleases the patient, has a happy psychical effect, and gradually restores the digestive and assimilative tissues.

It is easier to say what shall not than what may be included in the diet. In general, the salted meats (fresh pork, too), cooked cabbage (not the raw), turnips, carrots, beets, radishes, potatoes and other starchy foods of the saccharine class; sweets, pastries, bananas, strawberries, coffee and tea, are proscribed. Liquids (but never alcoholic) should be generously prescribed. Water is usually shunned by neurasthenics. It should be copiously used but not at the mealtime. Slowly sipping a glass of very hot water one-half hour before each meal is often of great benefit to an atonic stomach. Saline and lithia drinks assist in lessening fermentation in the alimentary canal.

The administration of some hot broth or milk just at bedtime often quiets and induces sleep in a nervous patient. The neurasthenic should be encouraged. The enfeebled will-power is strengthened by sympathy judiciously administered. Derision on the part of physician and friends is good medicine for a hysteric, but will drive the neurasthenic with increased misery to greater abandon. The patient must be led out of his exhausted state with the firmness and persistency necessary to evolve the plan of treatment decided upon. Hypnotism still further exhausts the weakened nerve-powers. In severe cases, where the family have become servants to every whim of the patient, removal to wholly new environments among entire strangers is a necessary condition for the moral effect in treatment.

Gentle faradization to the muscles is useful, but galvanism to the nerve-centers is apt to further exhaust cell-power. Hydrotherapy, rubbing, kneading, and massage of the entire body, short of fatigue to the patient, are preeminently useful measures. Medical treatment is last in order, the least beneficial, and withal the hardest to avoid giving. Most neurasthenics are drug-fiends. Every new symptom calls for additional medicine. If their degeneracy does not cause craving for drugs their friends, and too often the doctors, encourage specifics, until, in addition to their already deplorable condition, the drug-habit is fastened upon them.

When recourse is had to drugs iron is of first importance. Usually in some form of the peptonates it is most acceptable to the stomach and assimilative organs. Gentian or any of the bitter drugs, combined with strychnine and glycerin are the most useful general tonics. Alkalis are of great service in neurasthenias. The glycerophosphates of lime and soda have given good results in my experience. Fluid extracts of aqueous solutions (instead of tinctures) should be used to avoid the alcohol, as we use the glycerin instead of a saccharine menstruum. If stomachic fermentation be present acid hydrochloric with pepsin is indicated. However, in much the greater number of cases, the fermentation is intestinal, where an alkali and pancreatin alone is useful.

For hypnotics, trional and the bromides given in hot milk or broth are the most useful. Opium and its derivatives, with alcohol in every form, are to be avoided. Constipation is best treated by gradually decreasing doses of salines with increased ingestion of water.

A STUDY OF SEX-PRODUCTION IN MAN.

BY LOUIS KOLIPINSKI, M.D.,
OF WASHINGTON, D. C.

THE cause of sex-production has given rise to many theories, ingenious or impractical. Volumes have been filled with much collateral information to make each one more plausible. None so far has proven in any way satisfactory, and the subject remains a mystery in science.

This simple study of sex-production in man had its inspiration in a long professional acquaintance with two couples, interrelated, neighbors and intimates.

The habits, tastes, ideas, associations, social station, education and religion of these persons were the same. Their characters were strongly dissimilar. The first husband and wife were cousins. He was quiet, unobtrusive, lacking in energy and enterprise. She was the opposite in a marked degree. Conscious of this, she declared that she possessed the "stronger will." They had two children, both females.

The second husband was firm in his opinions, and found it hard to yield to persuasion. The wife—sister to the first man—was vivacious, light-hearted, sympathetic, pliant and yielding. Her character is well described by the phrase "a womanly woman." Their offspring in succession included three boys and one girl.

Starting with the assumption that *the parent of stronger will reproduces his own sex first,* the records of births of a considerable number of families, all personally known to the writer, were collected.

Such work, as done by a single investigator, cannot be made absolutely accurate. The most frequent source of error is the possibility of early abortion. Again, correct information may be withheld through suspicion or occult reason. In the aged the recollection of childbirth is imperfect. A mother may have forgotten the sex of her children in their order, particularly in the instance of still-birth or of infants that died.

The general tables compiled from these researches may contain a few such errors; as a whole however, they serve their purpose; namely, to show that there are two types of four classes each in which all progeny can be arranged. To this rule there are no exceptions. Whether the will in its intensity and variety can be considered a reliable criterion for predicting the sexuality of offspring remains to be proven.

The parent of "stronger will" invariably reproduces his own sex first. The greater the difference in this respect between man and woman the more does the one or the other sex first predominate. A father with the strongest of wills and a mother of the weakest procreate from three to five or more sons before a single daughter is born. There has been an attempt to show in the tables that the varying force of this mental quality may explain the existence of the different classes as there arranged. The writer has not been able to find any previous attempt of this kind in any of the modern and recent works on this subject.

In holding that the will of the parent is the factor that determines sex it is not thought that a method is offered either easy or exact in application. In general the theory seems correct; in detail the problem grows intricate.

Will, as here used, is understood to mean the degree of persistency with which man adheres to his thoughts and ideals and acts thereupon. The more correct these are the more developed will be this quality. Will is synonymous with *decision, determination* and *resolution.*

To give a clear definition of this simple word is no light task. In common speech a strong will means that of a determined, resolute person. It is most often confounded with obstinacy, in which, as a fact, the will is weak. In ordinary conversation the compound word "will-power" signifies its force and persistency.

To gage its degrees will obviously fail of accuracy. Considered as a measurable quantity, opinion and judgment must vary. Many a person exists whose strength of will cannot be discovered for want of opportunity to test it. How much it varies at different periods of life must likewise be fixed. Wherein and how it is changed by process of disease and by intoxicants must also be established.

The attempt to make it of four degrees of intensity is arbitrary. It is only in a strictly comparative sense that it is thus applied. A standard for the single individual is not attempted, unless his life-history be known. The four degrees are: (1) Negative, as compared to his mate; (2) the ordinary form; (3) a will that is strong, and (4) the most active and pronounced kind.

In this classification the first three births were used as a basis for the reasons which follow. Many families have but one or two children, either because the marriage is of short duration, because of the death of one of the parents, or from disease of father or mother or of both. Such unions yield records too imperfect to be of any use. On the other hand, in collecting the statistics of aged couples the uncertainties of memory are apt to vitiate the results. The three-birth type was hence found most reliable and represents a fair mean.

The births arranged in order of sex after this manner fall into two types, male and female, each of four classes:

1 Boy Boy Boy	1 Girl Girl Girl
2 Boy Boy Girl	2 Girl Girl Boy
3 Boy Girl Boy	3 Girl Boy Girl
4 Boy Girl Girl	4 Girl Boy Boy.

General Tables of Births by Sex in 192 Families.—Abbreviations and numbers: F, father; M, mother. 1, 2, 3, 4, degrees of relative strength of will in father and in mother. B, boy; G, girl; ⌣, twins; a, abortion.

Table I, Male Type BBB.

	F	M	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	B	G
1	?	1	B B B G B G G B B G G	6	5
2	?	1	B B B B G B B G B	7	2
3	4	1	B B B G B B B B B	8	1
4	?	1	B BB B G B B B G	7	2
5	?	1	B B B B G G G B	5	3
6	4	1	B B B B G B B	6	1
7	4	1	B B B B a G G	4	2
8	4	1	a B B a G G G	2	3
9	4	1	B B B B G G	4	2
10	?	1	B B B G B B a a a	5	1
11	4	1	B B B B B G	5	1
12	4	1	B B B G G	3	2
13	4	1	B B B B	4	0
14	4	1	B B B G	3	1
15	?	2	B B B G	3	1
16	4	1	B BB G	3	1
17	4	1	B B B	3	
18	3	1	B B B	3	
19	?	1	B B B	3	
20	3	1	B B B	3	
				87	28=115

Table II, Male Type BBG.

	F	M	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	B	G
1	3	1	B B G G B B B B G B B G B	9	4
2	3	1	B B G B B G B G a a B	6	3
3	3	1	B B G B G B G B G a	5	4
4	3	2	B B G G G GG B B	4	5
5	?	2	B B G a B BG a G	4	3
6	3	2	B B G G G B G B	4	4
7	3	2	B B G B B B G G	5	3
8	3	2	B B G B G G B B	5	3
9	3	2	B B G G G B B B	5	3
10	3	2	B B G B B G G G	4	4
11	3	2	B B G B B G B	5	2
12	?	2	B B G B B B G	5	2
13	?	2	B B G G B G	3	3
14	?	2	B B G G G G	2	4
15	3	1	B B G B B G	4	2
16	3	2	B B G B B B	5	1
17	?	2	B B G B B	4	1
18	4	3	B B G G B	3	2
19	3	2	B B G G	2	2
20	2	1	B B G B	3	1
21	2	1	B B G G	2	2
22	2	1	B B G	2	1
23	2	1	B B G	2	1
24	3	2	B B G	2	1
25	2	1	B B G	2	1
26	2	1	B B G	2	1
27	3	2	B B G	2	1
28	3	2	B B G	2	1
29	3	2	B B G	2	1
30	3	2	BB G	2	1
				107	67=174

Table III, Male Type BGB.

	F	M	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	B	G
1	3	2	B G B G B B B B G B B B B	10	3
2	1	1	B G B G B B B B G B B B	9	3
3	3	3	B G B G G G B G G B G G	4	8
4	4	4	B G B G B G G B G G	4	6
5	3	3	B G B B B G B B G G	6	4
6	?	2	B G B B B G B G a B a B	7	3
7	2	2	B G B G G B G B B	5	4
8	2	2	B G B G B G G	3	4
9	3	3	B G B B B B	5	1
10	3	3	B G B B B G	4	2
11	?	2	B G B B G B	4	2
12	2	2	B G B B G G	3	3
13	?	2	B G B G B G	3	3
14	3	2	B G B G B B	4	2
15	3	2	B G B B B G	4	2
16	2	2	B G B B G	3	2
17	3	3	B G B a B a G	3	2
18	4	4	B G B G B	3	2
19	3	3	B G B B G	3	2
20	?	1	B G B B a a a	3	1
21	?	2	B G B G G	2	3
22	3	3	B G B G	2	2
23	3	2	B G B B G	3	2
24	4	3	B G B	2	1
25	3	3	B G B	2	1
26	?	2	B G B	2	1
				103	69=172

Table IV, Male Type BGG.

	F	M	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	B	G
1	3	3	B G G B B B G B G G G B G B B B	9	7
2	2	?	B G G G a BB G G B G B	5	6
3	2	2	B G G B G B G B G B	5	5
4	2	2	B G G B G B B B G G	5	5
5	2	3	B G G G G G G	1	6
6	3	3	B G G G B B B	4	3
7	3	3	B G G G B B	3	3
8	2	2	B G G G G G	1	5
9	3	3	B G G B G G	2	4
10	3	3	B G G G G B	2	4
11	2	?	B G G B G B	3	3
12	2	2	BG G G G G	1	5

13	F 2 M 2	B G G G BG	2	4
14	F 2 M 2	B G G G B	2	3
15	F 2 M 2	B G G B B	3	2
16	F 3 M 3	B G G B B	3	2
17	F 2 M 2	B G G B G	2	3
18	F 2 M 2	B G G B G	2	3
19	F 1 M ?	B G G G	1	3
20	F 2 M 2	B G G B	2	2
21	F 3 M 3	B G G	1	2
22	F ? M 2	B G G	1	2
23	F 2 M 2	B G G	1	2
24	F 2 M 2	B G G	1	2
			62	86=148

TABLE V, FEMALE TYPE GGG.

		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	G	B
1	M 4 F 1	G G G G a B G G G G a B GB G	10	3
2	M 4 F 1	G G G G B B G B G G G G G B	10	4
3	M 3 F ?	G G G B B G G G B B B	6	5
4	M 3 F ?	G G G B B G B G B G G	7	4
5	M 4 F 1	G G G G G B B B B	5	4
6	M 4 F 2	G G G G B G G B B	6	3
7	M 3 F ?	G G G B B B G B B	4	5
8	M 3 F 1	G G G G G B B B B	5	4
9	M 4 F 2	G G G B B B G B	4	4
10	M 3 F 1	G G G G G B G	6	1
11	M ? F 1	G G G B G G G	6	1
12	M 4 F 1	G G G G G G	6	0
13	M 3 F 2	G G G G B G	5	1
14	M 3 F 2	GG G B G G	5	1
15	M 4 F 2	G G G G G B	5	1
16	M 3 F 2	G G G B B G	4	2
17	M 3 F 2	G G G B G	4	1
18	M 3 F ?	G G G B a	3	1
19	M 3 F 1	G G G a B	3	1
20	M 4 F 1	G G G G	4	0
21	M 3 F 1	G G G B	3	1
22	M 4 F 2	G G G G	4	0
23	M 3 F ?	G G G B	3	1
24	M 3 F 1	G G G B	3	1
25	M 3 F ?	G G G B	3	1
26	M 3 F 1	G G G	3	0
27	M 3 F 1	G G G	3	0
			130	50=180

TABLE VI, FEMALE TYPE GGB.

		1 2 3 4 5 6 7 8 9 10 11 12 13	G	B
1	M 4 F 2	G G B G B G B B G B B B	5	7
2	M 3 F ?	G G B G B G B G B B	5	5
3	M 3 F 2	G G B B B G B B B	3	6
4	M 2 F 1	G G B B B B G G G	5	4
5	M 3 F ?	G G B B G G	4	2
6	M 2 F 1	G G B B B B	2	4
7	M 3 F 2	G G B B G B	3	3
8	M 2 F ?	G G BB G G	4	2
9	M 3 F 2	G G B B B	2	3
10	M 3 F 2	G G B G B	3	2
11	M 3 F 2	G G a a B G	3	1
12	M 3 F 1	G G B G	3	1
13	M 3 F 2	G G B a B	2	2
14	M 3 F ?	G G B B	2	2
15	M ? F 2	G G B G	3	1
16	M 3 F 2	G G B B	2	2
17	M 3 F ?	G G B	2	1
18	M 3 F 1	G G B	2	1
19	M 3 F 1	G G B	2	1
20	M 3 F ?	G G B	2	1
21	M 2 F 1	G G B	2	1
22	M 3 F 2	G G B	2	1
			63	53=116

TABLE VII, FEMALE TYPE GBG.

		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	G	B
1	M 3 F ?	G B G G G B G G G B B G G	9	4
2	M 3 F 2	G B G B B B B G G B G	5	6
3	M 4 F 3	G B G G G G GG G B B	8	3
4	M 3 F 2	G B G B G G G B G a G B	7	4
5	M 2 F 1	G B G G B G B G B G	6	4
6	M 3 F 2	G B G G G G BB B	5	4
7	M 3 F 2	G B G G G B B B B	4	5
8	M 2 F 1	G B G G G G G G	7	1
9	M 3 F 2	G B G B B G B G	4	4
10	M 3 F ?	G B G B G G B	4	3
11	M 3 F 2	G B G G G B G	5	2
12	M 2 F 1	G B G B G B	3	3
13	M 3 F 2	G B G G B B	3	3
14	M 2 F 1	G B G B B B	2	4
15	M 3 F 2	G B G B B B	2	4
16	M 3 F 2	G B G B G G	4	2
17	M 2 F ?	G B G B B G	3	3
18	M 3 F 2	G B G B B	2	3
19	M 2 F ?	G B G G	3	1
20	M 3 F ?	G B G B	2	2
21	M 3 F ?	G B G	2	1
22	M 3 F 2	G B G	2	1
			92	67=159

TABLE VIII, FEMALE TYPE GBB.

		1 2 3 4 5 6 7 8 9 10 11 12 13	G	B
1	M 3 F ?	G B B B B B G G G G	5	5
2	M 3 F 3	G B B G B B B G G	4	5
3	M 3 F 2	G B B G B G B G	4	4
4	M ? F 3	G B B B B B G	2	5
5	M 4 F 3	G B B G B G	3	3
6	M 3 F ?	G B B B G B a a	2	4
7	M 3 F ?	G B B B B	1	4
8	M 3 F 3	G B B G G	3	2
9	M 3 F 3	G B B B B	1	4
10	M 4 F 3	G B B G G	3	2
11	M 3 F 2	G B B B	1	3
12	M 3 F 2	G B B B	1	3
13	M 3 F 2	G B B G	2	2
14	M 3 F ?	G B B G	2	2
15	M 3 F 2	G B B B	1	3

16	M 3 F 2	G B B B	1	3
17	M 2 F ?	G B B B	1	3
18	M 4 F 3	G B B	1	2
19	M 3 F 2	G B B	1	2
20	M 3 F 2	G B B	1	2
21	M 3 F 2	G B B	1	2
			41	65=106

SUMMARY OF GENERAL TABLES.

Male Type	Families	Boys	Girls	Children
I B B B	20	87	28	115
II B B G	30	107	67	174
III B G B	26	103	69	172
IV B G G	24	62	86	148
	100	359	250	509

Female Type	Families	Boys	Girls	Children
I G G G	27	50	130	180
II G G B	22	53	63	116
III G B G	22	67	92	159
IV G B B	21	65	41	106
	92	235	326	561
Totals	192	594	576	1,170

TABLE.

The eight classes arranged as to strength of will in the parents.

	No. of Families		1	2	3	4	Unknown
B B B	20	F	..	..	2	11	7
		M	19	1	..	..	..
B B G	30	F	..	6	18	1	5
		M	10	19	1	..	..
B G B	26	F	1	4	12	3	6
		M	2	13	9	2	..
B G G	24	F	1	14	8	..	1
		M	..	13	8	..	3
G G G	27	F	13	8	..	..	6
		M	..	..	17	9	1
G G B	22	F	6	10	..	..	6
		M	..	4	16	1	1
G B G	22	F	4	11	1	..	6
		M	..	6	15	1	..
G B B	21	F	..	9	7	..	5
		M	..	..	16	3	2

As a result of information gathered in this research it is possible to examine the correctness of a number of propositions that have been put forth on sex-production and sex-determination.

1. *That there are born more males than females.*—In the tables the total births are 594 boys to 576 girls, or 103 to 100. Hensen, in Hermann's Physiologie, Vol. VI, quotes European statistics: 59,350,000 births; 100 girls to 106.3 boys.

2. *Twin births occur once in 80 to 90 single births; more twin boys than twin girls, and mixed twins more numerous than either.*

In the 1,170 births, twins 15 times, or 1 to 78; boys, 6; girls, 5; mixed, 4.

3. Hofacker = Sadler's Law. *That older fathers produce more boys, and that wives older than their husbands produce more girls.* This law is correct when interpreted in the light of the theory here advanced. That women who marry younger men, and men who marry younger women, theoretically possess the "stronger will" cannot be denied; therefore they reproduce their own sex first, and consequently in any considerable number that sex is in excess; likewise in single instances of a not too numerous family the chances are all in favor of this same preponderance.

4. *That prostitutes give birth to boys.* Since crime, depravity and the outcast existence of such females is not conducive to strength of will, this statement can be considered correct.

5. *That Jews produce more boys than the people of the race or nation with whom they live* (Hensen, v.a.). The following table shows an excess of boys over the average.

HEBREW FAMILIES.

	1	2	3	4	5	6	7	8	9	10	11	12
1	B	B	B	G	B	G	G	B	B	G	G	
2	B	B	B	B								
3	B	B	G	B	B	G	B	G	a	a	B	
4	B	B	G	B								
5	B	B	G									
6	B	B	G									
7	B	G	B	G	B	B	B	B	G	B	B	B
8	B	G	B	B	G	G						
9	G	G	G	G	G	B	G					
10	G	G	G									
11	G	G	B	B								
12	G	G	B									
13	G	B	G	G	B	B						
14	G	B	G	B	B	B						
15	G	B	G	B	G	G						
16	G	B	B	B	G	B						
17	G	B	B	G								

Boys, 54; girls, 43.

6. *That male drunkards produce boys.* The appended table, though small, seems to confirm this. Whether it is the result of the chronic alcoholic poisoning of the fathers, or whether it results from the cowed and miserable state of the mothers, common to the majority of such unions, others may decide.

FAMILIES OF MALE DRUNKARDS.

	1	2	3	4	5	6	7	8
1	B	B	B	B	G	G		
2	B	B	B					
3	B	B	G	G	G	B	B	B
4	B	B	G					
5	B	B	G					
6	B	G	G	B	G	B		
7	B	G	G	G	G	G		
8	B	G	G	G				
9	G	G	B	B	B	B		
10	G	B	B	B				

Boys, 28; girls, 21.

In conclusion, a word in criticism of the work of others on this mysterious and fascinating subject. The producers of the modern theories on the law of sex have given much time and labor to argument in support of their views. Animate nature, throughout the high and low organizations, has been examined and compared; but it is strange to observe that man has been studied collectively, and in the individual hardly at all.

GENERAL REMARKS ON NASAL OBSTRUCTION.*

BY JOHN A. DONOVAN, M.D.,
OF BUTTE, MONTANA;
SECRETARY, SILVER BOW COUNTY MEDICAL SOCIETY; CORRESPONDING SECRETARY, MONTANA STATE MEDICAL ASSOCIATION; VICE-PRESIDENT OF THE AMERICAN CONGRESS OF TUBERCULOSIS.

THE importance of a perfectly normal condition of the nose is but seldom considered by the average physician in routine work, yet our very existence depends on a proper supply of air reaching the lungs.

The cosmetic effect of the nose is in itself to many a sufficient reason for much study. Aside from this it is an organ of expression and of taste, with vocal, olfactory, respiratory and auditory functions. By far the most essential function is that of respiration.

Before reaching the lungs air should be properly humidified, warmed, filtered and freed from infectious matter, all of which takes place within the normal nasal chambers. When we consider the necessity to every human being for 686,000 cubic inches of ordinary air in 24 hours, humidified by the evaporation of approximately one pint (500 c.c.) of fluids, raised to the proper temperature, freed from foreign substances, etc., all accomplished within so apparently small a cavity, it is almost hard to overestimate the importance of the anatomical relations of the nose and its physiological activity, not to mention the pains and disagreeable local conditions accompanying obstruction, or the material alteration of this amount of fluid, which equals one-third of the excretions from the kidneys or the toxemias following the disintegration and absorption of pent-up secretions.

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* Read before the Montana State Medical Association, at Anaconda, at the meeting held May 21 and 22, 1902.

It is not my intention to burden you with minute anatomical, physiological or pathological data, for to the aspirant in nasal surgery, nothing but a complete mastery of the nasal structures, learned after much careful study, is of any avail. On the relative importance and proper relations of its anatomical parts depends the effect of the currents of air on neighboring structures. These neighboring structures in turn, by occlusion, pressure, irritation, infection or protection of adjacent parts exert still wider influence. In no department of surgery does the average physician feel more sure of his complete competency to master the conditions than here by simply procuring a cautery, some acids and a spray; to no other organ is so much irreparable damage done by the lack of a proper appreciation of its normal functions.

Occlude the nose, and immediately we have the direct entrance of air at all temperatures, laden with dust and all kinds of material in its original dry state, passing almost directly into the sensitive larynx and so down to the lungs. As a direct result we see the large lips, the coated tongue, the engorged pharynx, conjested larynx, trachea and bronchi of the mouth-breather. Add to this the enlarged tonsils and adenoids that in children frequently accompany or produce this condition, and we have the common characteristics—stupid appearing face, general appearance of poor oxidation, stooped shoulders, pigeon-chest, with undeveloped mental faculties—poor memory, lack of perception and expression, poor hearing, etc. In adults we have also neurasthenia, headache, insomnia, melancholia and vertigo. These patients also suffer from attacks of tonsillitis, otitis, conjunctivitis, lachrymal stenosis, constantly recurring colds, coryza, hay-fever, pharyngitis, laryngitis, bronchitis, gastro-intestinal catarrhs, auto-intoxication, asthma, croup, aphonia, hoarseness, etc., with every change in temperature surroundings, all predisposing them to tubercular conditions.

The physical examination of the nose in these conditions almost always reveals engorged turbinate bodies, spurs or deflected septum. McKenzie found in 2,000 skulls that 77 per cent. had deflected septa. It is here that a perfect knowledge of the normal anatomy and physiology of the nose is absolutely necessary, for a very slight deflection of the septum or a small spur may be sufficient to deflect the current of air, before it has an opportunity to be warmed and moistened, directly against a part not intended for its reception, so that the air acts as an irritant. This in turn, through contact, irritates adjoining structures, retarding evaporation and excretion. Thus our attention is occupied by the conditions producing the immediate symptoms for which our patient seeks relief, while in our eagerness to get results we overlook the primitive cause. Though I would by no means advocate the straightening of every septum, yet I believe, as stated by Dr. Pynchon, that very slight deviations at times are the cause of many of the graver symptoms. Personally I am indebted to Dr. Robert Levy, and later to Dr. Frank H. Bosworth, for much relief from a persistent laryngitis by the removal of a small septal spur. Had not all other treatment failed I could hardly have been convinced that this was the cause of so many attacks of coryza.

In Butte we have an unusually large proportion of catarrhal deafness. One cause is no doubt our local conditions, with an altitude of one mile; yet in almost all of these patients will be found pathological condition of the nose. I have recently had several cases showing a very decided septum deviation, and strangely enough the surgeons had advised removal of the enlarged turbinates, which nature had generously provided in an endeavor to compensate for the abnormally large opening on one side, thereby entirely overlooking the fact that the ear corresponding to the more open side is always the more affected.

For the general physician, who meets so many cases of hacking cough, hay-fever, asthma, hoarseness, bronchitis, etc., I would advise a careful examination of the nose. I have just discharged as cured a woman aged twenty-five years, who for years has had attacks of croup, by relieving her of a nasal stenosis and tonsil irritation. I gave her no medicine whatever, although for years previously she had constantly taken some kind of medicine, and never felt safe at night without ipecac in her room. Many cases of supra-orbital and facial neuralgias, conjunctivitis (especially phlyctenular conjunctivitis), keratitis, iritis, and lachrymal trouble are relieved only when a turgescent nasal mucous membrane becomes relieved. A child recently brought to me was threatened with a recurrence of an iritis, which had been treated for months in Spokane and I was able to effect a cure by simple nasal douches.

For reasons before stated, I shall not give details of treatment. In general the surroundings should be carefully considered. I am of the opinion that many colds are only the result of the action of some toxins on the central nervous system, or *vice versa,* and this would indicate early and thorough elimination by bowels, kidneys and skin. A high power of resistance to sudden temperature changes may be cultivated by cold baths, or by warm ones followed by cold sponging.

Clothing and Diet.—In Montana nearly every one wears too much clothing, and likewise eats too much meat. Though I believe the linen mesh on the market is almost an ideal dressing, yet I am almost convinced from my own personal experience that if other goods can be procured light enough to allow free evaporation the same results will be obtained. Combat extreme cold by an overcoat. Diet must be considered in the individual case. Locally I like salt, a teaspoonful to a pint of warm water, or equal parts salt, soda and borax. Glycothymolin, borolyptol, formalin, etc.; have useful places. Oils also have their field. Adrenalin solution will make many patients happy and drive a few from you forever.

The restoration of the nasal chambers to perfect anatomical condition is of the first and greatest importance for effecting a cure. Then the time-honored saying that "catarrh cannot be cured" will be heard no more. Straighten the septum, if it is required. I like the Myles instruments for this in most cases, though the knife, saw, Kyle's saws, Ashe's cutting forceps, etc., are all useful in particular cases. For spurs use the saw, knife or cautery as indicated. Those near the floor may be effectively reached with Pynchon's concave blade saws. For polypus the snare is preferable. Cautery and forceps are useful. Enlarged turbinates are best removed, the lower with saw, scissors, knife and snare. For the middle turbinate I prefer Holmes's scissors and the snare, though the Myles cutting forceps, the Curtis forceps and many others have special indications. For hypertrophied tissue I like cautery puncture along the periosteum, thus saving the normal surface. I consider the electrocautery one of the most useful and most dangerous of all nasal instruments.

One thing I would have you remember in nasal work—the job you underdo may be corrected later, while the one you overdo can never be corrected. If you are not absolutely sure that a portion should be removed, then by all means leave it alone.

MEDICAL PROGRESS.

SURGERY.

Gastrectomy.—The rarity of this operation impresses itself upon one who is doing much abdominal surgery. Very few cases present in which the operation of gastrectomy can be performed, says Albert Vander Veer (Amer. Jour. of Obstet. and Diseases of Wom. and Child., Oct., 1902). This writer reports two such cases, one of which was successful. The first case, a woman forty-two years of age, gave a history of carcinoma of the stomach. The stomach was removed and the esophagus was joined to the duodenum by means of a Murphy button. After the patient had recovered from the anesthetic she gave herself a sudden wrench, and from that time she gradually sank; and 24 hours later died. Autopsy revealed the fact that the Murphy button had pulled out of its moorings and the contents of the gut had escaped into the peritoneal cavity. This was the cause of death. In the second, that of a man fifty-five years old, the stomach was removed and the two cut ends of the gut were sutured together by means of fine silk. In this case, there was a perfect recovery. This patient was exhibited at the meeting of American Surgical Society, Albany, N. Y., June 4, 1902, and presented the following history: Appetite excellent, bowels in good condition, wound thoroughly healed, is able to eat any kind of food, and increased quantity. Has gained over 30 pounds in weight. In September of this year the patient resumed his trade of blacksmith without noticing any change from his normal condition. This increased nutrition leads the author to believe that the stomach can be removed and the remaining portion of the intestines perform the necessary functions. The Murphy button is not safe, and the two cut ends of the intestines should be closed with silk sutures.

Normal Involution of the Appendix.—This organ normally undergoes an involution process, which is marked by a gradual disappearance of the mucous coat, with obliteration of the lumen of the appendix. These cases, says Robt. T. Morris (Amer. Jour. of Diseases of Wom. and Child., Oct., 1902) have received anatomists' attention and have escaped the notice of the surgeon. It is a class of common cases that go the rounds of the medical profession, seeking the relief which has not very often been given, because the nature of the case was not clearly defined in medical literature. They complained of a sense of discomfort in the region of the appendix, but with no history of acute attacks, and nothing is found on palpation, so that they are put down in the catagory of intestinal indigestion, due to some cause requiring the analysis of a physician. The author mentions a case of a well-known surgeon, who was convinced that something was wrong with his appendix. For four years there had been an area of localized discomfort in the region of his appendix, with occasional neuralgia of the ilioinguinal and iliohypogastric nerves. There was no actual pain, and there were at first periods of complete relief, but these became shorter and shorter, until finally the discomfort was so persistent, that he sought relief. The patient insisted upon operation and the appendix was removed. The appendix was about three inches long and presented no evidence of infective changes. On longitudinal section, it was observed that nearly all of the distal half of the appendix had a normal involution process with obliteration of the lumen and replacement of the lymphoid and mucous layers by connective tissue. This replacement tissue was practically scar tissue and it probably so crowded the nerve filaments as to be the cause of the discomfort in that region. The symptoms of this disorder belong to middle life though they sometimes become marked as early as the twentieth year. They persist over a series of years and probably disappear in later life when the appendix has become transformed into a string of looser connective tissue. It is to be differentiated from tuberculosis of the appendix, and benign mucous occlusion, or appendix irritation due to tortion or angulation. Hysteria can be recognized by the accompanying neurotic manifestations. Treatment should be symptomatic and operation should not be the procedure of election.

Percussion and Auscultation as a Means of Diagnosis in Fracture.—Although the discovery of the X-rays has facilitated the diagnosis of fracture in a large number of cases, the use of this method necessitates the installation of special apparatus, delicate and easily damaged, which, in addition, is always difficult of application, if not impossible in a large number of cases, especially in a country practice and in the army. Moreover, if one bases his diagnosis upon the classical signs of fracture, namely, crepitus, abnormal mobility, deformity and pain, it is often possible to be absolutely certain of fracture; but, unfortunately, these signs may be lacking more or less distinctly or else bleeding locally may make a thorough examination undesirable. It is in precisely these cases that J. Plesch (La Sem. Méd., Oct. 8, 1902) has advised, without any new instrument, a good means of locating fracture. If one percusses at the superior epiphysis of the healthy bone and auscultates at the same time at the lower epiphysis, a clear sound is received, whose quality, intensity and loudness depend upon the density and size of the bone in question, and upon the condition of the neighboring tissues. In a given individual in health, percussion upon a given point will give practically the same results. If, however, there is a fracture, even if incomplete, the transmission of this sound is altered, and, according to the condition of the bone at the break, the percussion of the bone itself is accompanied by bruit more or less metallic in quality. Then, in a complete fracture, the sound will be heard only if the fragments are in contact, and will then be more or less a crepitation. As a means of control, this maneuver should always be carried out on the healthy side of the same bone. The author states that this permits easy localization of the fracture, because, except in compound fractures, it is only necessary to slowly approach the point of percussion and the stethoscope bell from the two ends of the bone. As soon as the normal bone percussion note is obtained, the seat of the fracture is reached, because in that case the bell of the stethoscope will be partly over the fracture and partly upon the sound bone that is being percussed. Normally the epiphysis is placed directly under the skin of the bones best adapted for this purpose. If there is inflammation present, the maneuver may be carried out with almost equal satisfaction not by percussing the epiphysis of the diseased bone, but of the neighboring bone. In this case the joints seem to transmit the sounds sufficiently well to admit of comparison between two sites and of diagnosis. This author has verified these assertions upon the cadaver as an exact means of diagnosing fracture, and on bones of the ribs and on the vault of the cranium. He finds it of service also in costal caries and in osteomyelitis of the fibula.

The Repair-process in Cranial Flaps.—Although a great deal has been written on this subject and a wealth of experimental work done, the question of technic after resection of a portion of the skull case is not yet definitely settled. Is it from the bone itself or from its coverings—the dura and pericranium—that the regeneration takes place? A lengthy series of experiments to determine what part each plays and whether firm union can take place in the bone without the help of all three factors, is detailed by Nello Biagi (Deut. Zeitsch. f. Chir., Sept., 1902), some of his more important conclusions being as follows: It is clear that if the disk of bone to be removed is allowed to retain its normal periosteal and dural coverings and these are connected to their parent tissues by broad flaps, the disk will, in the great majority of cases live. Slight and limited necrotic zones may develop in such a flap quite independently of the operation trauma, namely where the vessels become thrombosed. Invariably, however, no matter what processes may have led to their development, these areas are replaced by true bone, which takes its origin from old Haversian canals. Although this ossification is not so pronounced in the late as in the early periods, it is always present, is constant and progressive. True horny union between the disk and the walls of the lumen does not take place, even under these most advantageous conditions, for a very long time. The dura and periosteum must, therefore, be considered as all-important factors in cranial osteo-regenesis. Of the two, the dura probably plays the less important part, as the repair may be perfect in cases where it has been totally removed from the bone. So small were the bone repairing processes of the bone that without the aid either of dura or of periosteum the fragment, unable to retain its vitality through osmosis, slowly but surely and entirely absorbed.

Urine from Each Kidney.—The importance of being able to separate and collect the urine from the two kidneys is now fully recognized but the difficulty experienced in using the instruments which have previously been employed has been so great that only those who were especially skilled could hope for satisfactory results. Separated specimens in the male can be obtained only by ureteral catheterism and this requires a bladder with a capacity of at least 50 c.c., which is not bleeding or into which one or the other kidney is not pouring blood too rapidly for the irrigating cystoscope to wash away. F. C. Valentine (Med. Rec., Oct. 25, 1902) explains the use of an instrument which has been recently devised by Cathelin of Paris. It is a vesical divisor consisting of a cylindrical tube shaped at one end like a short-beaked silver catheter. The distal extremity has a central orifice and two lateral catheter carriers, each opening protected by a screw-nut to prevent escape of urine, except through the catheters, which perforate the nuts. The central orifice allows the easy propulsion of a shaft whose handle is graduated and to whose vesical extremity is attached a fine steel spring in such a way that, one end being held near the beak of the instrument, the remainder of the spring is forced into the bladder forming a large loop or circle and is maintained in a vertical position. Within this spring loop there is a soft rubber membrane which completes the division between the two sides of the bladder, the size of the loop being regulated according to the capacity of the viscus previously determined. The catheters drain the urine from either side. Very little distress is caused by this instrument, no anesthetic is required, and an inexperienced person can obtain specimens from both kidneys in a few minutes.

Paradoxical Positions in Coxalgia.—A paper upon this subject is presented by M. Phocas of Lille, in collaboration with M. Bachman. (Le Nord Méd., Oct. 15, 1902). In general, abnormalities of position in coxalgia may be said to follow two types. In the first or initial period, there is flexion alone or with abduction, rotation outward and apparent lengthening. In the second and terminal period, flexion and adduction with inward rotation and apparent shortening. In a series of six cases the authors have seen a deviation from both these types, consisting in adduction with rotation outward and apparent shortening. The significance of this position is discussed by the writers who found through radiography and resection that there were extensive lesions of the cotyloid cavity, which was enlarged and deeply eroded; and that the head of the femur was also greatly eroded, being partly destroyed in three cases, and reduced to a mere sequestrum in one. It is concluded that while this position cannot be considered as pathognomonic of any one variety of lesion of the hip, yet all the cases in which such a position was seen, were characterized by grave and extensive lesions of the hip-joint.

Diagnosis of Cystic Disease of the Mammary Gland.—Errors in the diagnosis of this condition are almost the rule, says P. Bégouin (Jour. de Méd. de Bordeaux, Oct. 10, 1902). This condition, described by Réclus in 1883, and for that reason sometimes known as Réclus' disease, is believed to be due to dilatation of and subsequent cystic change in the acini of the mammary gland. The author especially emphasizes its differential diagnosis from cancer. Cystic disease is almost always bilateral; and the most important diagnostic point is the multiplicity of the nodules, which can best be appreciated by pressing the breast against the thorax with the hand laid flat upon it. Numerous hard, irregular and mobile nodules may thus be felt, which are scattered throughout the gland, and vary from the size of a nut to that of a grain of wheat. While the tumors are hard, they possess a certain elasticity, and this characteristic together with the partial mobility of the skin over them and absence of involvement of the axillary glands and retraction of the nipple, serve as aids to the diagnosis from a typical carcinoma. Further, pressure upon the tumor will sometimes cause a flow of serous fluid from the nipple; the tumor then becoming less tense, or even fluctuating. Intracanalicular carcinoma may simulate to some degree cystic disease. So long as the neoplastic tissue is limited to the acini and infiltration has not taken place, the tumor remains limited, fairly movable and pressure upon it may induce a flow of liquid from the nipple. Palpation will, however, aid diagnosis through the multiplicity of the nodules in cystic disease as even in the rare cases of multiple cancerous nodules their numbers do not equal those of cystic disease. Adenofibroma or chronic mastitis may also enter into the question of diagnosis, but when a decision cannot be reached either by a process of exclusion or from the classic symptoms of any of these conditions, exploratory puncture of the principal tumor, or of several, is to be practised by means of a Pravaz syringe. If cystic disease be present, a viscid, greenish or lemon-colored fluid will be withdrawn, even a drop sufficing for diagnostic purposes.

Hydatid Cysts.—The following conclusions concerning this rare and usually fatal disease are offered by F. DEVE (Rev. de Chir., Oct. 10, 1902). The scolex and the proliferating capsules, which are really the specific microscopical germs of the disease, may equally well as the daughter-cysts, which are properly the macroscopical elements, cause new hydatid cysts wherever they may lodge. It is therefore important and a fact proved clinically and experimentally that in operating one must avoid disseminating anything from these cysts over the wound; otherwise a secondary infection from this source alone is almost assured. Experimentally contact of two minutes or 2½ minutes with a solution of 1-1000 bichloride of mercury or 1-200 formalin will destroy the vitality of all these sources of infection. In cases of cyst which have not yet become altered, a preliminary injection of 1-200 solution of formalin or of the liquor of Van Sweiten with a contact of two or three minutes with the contents of the mother-cyst appears to be sufficient to prevent a secondary infection of the wound, even if the mother-cyst is opened and its contents reach the raw surfaces exposed.

Dupuytren's Fracture.—By fracture of Dupuytren it is necessary to understand a bimalleolar fracture of the leg by abduction, that is, a tearing fracture of the internal malleolus across its base or point, or, more rarely, a laceration of the internal lateral ligament, and fracture of the fibula above the inferior tibiofibular ligaments and the diastasis of the anterior tibiofibular articulation. This last lesion may be lacking. It is, therefore, always an articular fracture. The prognosis of this lesion, according to MALLY and RICHON (Revue de Chir., Oct. 10, 1902) is usually grave as to ultimate function. Although good treatment, well carried out up to the point of consolidation of the bones would be, theoretically, sufficient to bring about a cure, it is admitted that during convalescence there are two secondary complications. The first, which is almost constant, but of variable gravity, is an atrophy of the muscles of articular origin, especially those which affect the ankle. At the same time there are various trophic troubles, cutaneous and vasomotor. The second is a deviation of the foot progressively outward, that is, valgus. The atrophy of the muscles has the character of a reflex atrophy and is in some cases due to the atrophy of motor cells in the anterior horns of the spinal cord. The existence of atrophic troubles in the skin, or vasomotor symptoms and of muscular wasting suggest the propriety of regarding the deviation of the foot as the primary cause in such a way as to alter the structure of the ligaments and normal gait. Thus progressively the arch of the foot is broken down and flatfoot is produced. Spinal lesions of a trophic nature are still unknown in their essence, but those which are responsible for muscular atrophy consist as a rule in a diminution of the number of anterior cells of the motor horn, or their pigment, and effacement of their axis cylinder prolongations. The immediate treatment usually consists in the application of an apparatus which effectually produces complete reduction and maintains it exactly, while it permits ready access to the internal malleolus. In order to fulfil these indications, watchfulness must be the order of the day. If there is great edema of the soft parts, massage and absorbent applications must be used for several days preceding reduction. If the fracture is compound and complicated, the reduction must be preceded by very careful disinfection of the wound. Faulty union in this fracture constitutes a severe infirmity, and always justifies an operation for its correction.

Laparotomy during War.—The treatment of wounds on the battlefield in war and in the field hospitals is to-day and has been for centuries, an unsettled question so far as wounds of the cavities of the body are concerned. In the late Civil War in this country nearly 90 per cent. of all the wounds of the abdomen were fatal, which probably constitutes 100 per cent. or nearly that of wounds of the abdomen involving damage to any of the hollow viscera. To-day, however, with better facilities, laparotomy in war is a justifiable procedure. VON HIPPEL (Arch. f. klin. Chir., B. 68, H. 3, 1902) sums this question up with the following points. Laparotomy is, even in war-time, a necessary and advisable operation, which is made possible by means of perfected organization. It is directly indicated in small-caliber wounds of the abdomen primarily, that is, during the first 12 hours, for internal bleeding, provided the condition of the patient will stand it; for wounds of the gall-bladder and gall-passages and urinary bladder, and for fracture of the pelvis. In anteroposterior or transverse direction of the wound in the region of the small intestines and transverse colon it is also primarily indicated, even if there are no distinct signs of wounds of the small intestines. In all other directions of the wound, unless there are distinct signs of wounds of the small intestines, it becomes a secondary operation, that is, after the first 12 hours have passed, especially if there are any symptoms whatever of beginning peritonitis. Late appearing or steadily progressing peritonitis, having its origin in an injury at first without symptoms, is also an indication. As an exploratory operation it is justifiable in wounds which penetrate obliquely between the flank and the navel, and in wounds where there is no opening of exit, especially if it is impossible to recognize whether internal organs are damaged or not. This might be called a relative indication. Wounds of the abdomen through artillery projectiles indicate a laparotomy when they are perforating and the condition of the patient offers any hope. The chief indications against the carrying out of a laparotomy are not so much a prepared place or lack of time or impossibility of realizing asepsis as the difficulties of operating well in a limited space and the necessity of a good transporting facility after the operation. Therefore, laparotomy should be done in a field hospital to which direct transportation may be had. For this reason, therefore, the following necessities must be realized in such a field hospital: it must be as near as possible to the actual fighting line; it must be provided with several ambulances and an oil-stove; a corps of competent surgeons and nurses must be at hand, and facilities must be provided for caring for the wounded after operation until so far convalescent that they may be moved with entire safety.

OBSTETRICS AND GYNECOLOGY.

Pelvic Suppuration.—The study of pelvic suppuration incident to inflammatory processes discloses the fact that the causes are to be found in infection due to invasion of pyogenic bacteria and an important fact is the nearness of the intestinal tract to the uterus and its adnexa and the pelvic peritoneum. A. J. PULS (Amer. Gynec., Sept., 1902). The traumatic influence on diseased tissue is clearly shown in the case of catarrhal appendicitis reported by Rose. A laborer with this condition received a bruise over the abdomen, developed peritonitis and died, although there was no evidence of perforation. Similarly, exposure to cold, or a local injury can inflame healthy tissues. Both the vermiform appendix and the sigmoid flexure of the colon, as well as other parts of the intestinal tract, when once glued to the uterine appendages by peritoneal adhesions, may by their contiguity, under the influence of traumatism, give rise to intrapelvic suppurative inflammation. Inflammatory processes, in either the appendix or right uterine appendage may affect both, and ascend or descend along the connecting ligament either intra- or extraperitoneally. The puerperium offers the most favorable conditions for infections. Lacerations of the cervix or perineum, erosions and ulceration of the parted vaginalis are open doorways for virulent germs. Purulent salpingitis is, as a rule, the sequel of an ascending endometritis. Abscesses of the uterus are formed in the wall of the organ. The pus escapes through the vagina or breaks into the parametrium, or finds an outlet by way of the bladder or rectum. Exudations near the uterus take place in the intercellular tissue within the uterine ligaments. According to its location we designate an anterior exudate precervical, when within the vesico-uterine folds. It is called paravesical when in space of Retzius. The lateral parametral exudates are defined according to their position at the base of the broad ligament or higher up between the lamellæ toward the pelvic brim. Posteriorly the exudate fills the cul-de-sac of Douglas between the sacrouterine ligaments and descends into the rectovaginal septum. Intercellular accumulations of pus seek first an outlet into an adjacent viscus; next they follow along the sheaths of the nerves and blood vessels which leave the pelvis. Parametral abscesses rarely rupture into the free peritoneal cavity. A precervical abscess burrows into the bladder. Paravesical abscesses point in the inguinal regions. Lateral abscesses situated in the broad ligament fill the iliac fossa and then point at the anterior abdominal wall, near Poupart's ligament. In chronic posterior parametritis the ligaments are shortened and contracted, causing acute anteversion of the uterus and frequently deviations of the cervix uteri. Pelvic hematocele, as the result of rupture of a tubal pregnancy, sooner or later becomes infected and undergoes pus formation unless absorption of the blood occurs. The treatment of pelvic suppuration consists, without exception, in securing effectual drainage. Paravesical and those in the broad ligament, should be incised above Poupart's ligament, analogously to the incision for ligation of the iliac artery (external branch). Tubal and ovarian abscesses should be drained through the vagina. Hysterectomy is justifiable where there must be complete loss of functional activity for the ad nexa. Our one aim should be to avoid abdominal drainage and to substitute vaginal drainage.

Septicemia and the Curette.—Believing that the serious consequences which so frequently follow the treatment of an incomplete miscarriage or abortion, are due largely to traumatism by the curette and the introduction of germs into the unprotected uterine wall, H. PLYMTON (N. Y. Med. Jour., Oct. 11, 1902) recommends a careful avoidance of anything which will tend to interfere with the natural cleansing act which the uterus performs by causing a profuse exudation of serum and blood from its walls. Valuable assistance can, however, be given to the uterus by the use of frequent uterine douches with an alkaline solution at about 110° F. and a strict avoidance of the many antiseptics which coagulate the albumin and blood. At first he usually gently removes all loose fragments from the interior of the uterus by the use of blunt forceps avoiding any traction upon adherent pieces. A gentle flushing is then given of a quart or more of the alkaline solution and this is repeated every two or three hours till the return is free from fragments and there is no odor. Subsequent vaginal douches are all that are necessary as a rule. A tablet of extract of cannabis indica (gr. ¼) and ergotine (gr. ½) every hour until the desired effect is produced will contract the uterus and alleviate pain. The bowels should be moved freely by enemata and cathartics.

The Degeneration of Gynecology.—Surgery has been called the opprobrium of medicine; and if we may consider surgery and medicine as separate entities, this dictum is in a sense certainly true, for medicine only involves the aid of surgery when it has acknowledged its own defeat. In the same sense, says W. P. CARR (Amer. Jour. of Obstet. and Dis. of Wom. and Children, Oct., 1902), if we separate the two, we must consider pelvic surgery the opprobrium of gynecology; for it is, or should be, only when gynecology fails that pelvic surgery is involved. The gynecologist who becomes a pelvic surgeon degenerates as a gynecologist and acknowledges an inability to cure without resort to the opprobrium of opprobriums. Is this degeneracy the atrophy of a useless art, or is it the result of neglect for the more brilliant and showy methods? It has come about that, except for a few plastic operations on the vagina, gynecologic operations of old have been turned over to the pelvic surgeon. There is much to condemn in the old "tinkering" gynecology, but there was much also that was good and worth preserving and improving; and when our eyes are less dazzled by the brilliancy of operative measures, and we turn to account the new light gained from operative treatment, we will get better results than in the past, when pathology was dark and the benefits of rest, drainage, heat and many other valuable measures unappreciated. Acute inflammations belong to gynecology; and can be successfully treated by rest, proper nursing, proper food and medicines, and by correct local treatment. This systematic treatment will result in a cure in the great majority of cases, and will reduce the inflammation in the remainder of them to a chronic stage. The essayist insists that surgery is not the only hope for salpingitis, ovaritis, metritis, endometritis, and other conditions included in this term. It has long been known that constipation and other intestinal diseases are closely associated with uterine complaints, and that curettage does not benefit these cases. The removal of the ovaries sometimes only aggravates their condition.

The stomach specialist will often cure these cases. Some cases of congenital malformation or lack of development, from their very nature are remediable only by plastic operation: and others, such as, chlorosis and infantile uteri, are as plainly medical cases.

Repeated Ovariotomy.—The necessity for repeated ovariotomy is rare. Of 228 cases of unilateral ovariotomy performed by Spencer Wells, recurrence in the presumably healthy ovary, necessitating a second operation, was noted in six cases. J. A. C. Kynoch (Br. Jour. Obstet. and Gyn., Oct., 1902) believes that it is of importance in considering the question of ovarian tumors to exclude those cases where the second tumor had its origin from ovarian tissue left in the pedicle, or from part of the cyst having been left behind at the original incomplete operation. The mortality of the second operation is slightly higher than the first, probably because of greater frequency of adhesions. Olshausen gives the mortality as 12 per cent., while Vellitz states it to be 26 per cent. Pfannenstiel shows that papillomatous growths may be associated with perfectly simple ovarian cysts, causing implantation and metastasis on the peritoneum, with ascites, the latter being permanently cured in many instances on removal of the tumor. On the other hand, of cystic carcinomata of the ovary, he finds one-half papillary in nature, giving rise to true metastases in the glands, liver and other organs. It is therefore in the case of papillary cysts that removal, partial or complete, of the other ovary is of most imjortance, because it is difficult, if not impossible, during the course of an operation to say with any degree of certainty whether we are dealing with a simple or malignant papillomatous tumor. In women at or about the climacteric it would probably be a safe rule to remove the unaffected ovary in every case. In younger patients we have to consider the relative advantage of leaving the ovary, removing it altogether or partially excising it. By leaving the ovary the absence of distressing symptoms associated with an artificial menopause, and the possibility of a subsequent pregnancy taking place, have to be contrasted with the slight risk which the patient runs of repeated ovariotomy. If our patients should be kept under observation after operation, so that early manifestations of recurrence could be detected, there would not be the same danger in leaving the unaffected ovary. When the ovary shows incipient cystic disease, simple puncture with knife or cautery may be sufficient; in small adenomatous and dermoid cysts, resection has the advantage in younger patients of probably removing the disease and at the same time leaving a sufficient ovarian tissue to permit ovulation and subsequent pregnancy. Mere resection of papillary cysts is not so safe. Pfannenstiel, in writing on this subject, states that in all cases of ovarian tumors which have a tendency to become bilateral—for example, sarcoma, carcinoma and papillomatous tumors and in all forms of tumors in patients over forty-five years of age, the other ovary must be removed at the same time.

Surgery of Retrodisplacements.—Versions and flexions, while differing somewhat in their etiology, may practically be considered together as regards to their surgical treatment. W. D. Haggard (Amer. Gyn., Sept. 1902) thinks that the actual and important clinical division is in movable and adherent retrodisplacements. Between these there exists the very wide difference that the latter are complicated with inflammatory lesions of the tubes, ovaries and peritoneum. And indeed, most of the symptoms referred to retrodisplacements, are due to these complications. The element of infection determines the presence or absence of adhesions. A heavy subinvoluted uterus associated with a break in the pelvic floor is perhaps the most frequent etiological factor. Emmet has almost invariably cured all of his cases of movable retroversion following injuries sustained in labor by plastic operations. In nulliparous women it is possible to cure a small number by the pessary. Kelly says that there have been devised over 50 different operations for the cure of distortions and malposition of the uterus which are other than plastic. The various procedures should be based upon (*a*) the cause of the particular displacement; (*b*) upon a proper estimate of its results, (*c*) its complications. Whether or not there be adhesions, if the abdomen be opened the uterus may be secured in position either by retrosuspension or intraperitoneal shortening of the round ligaments. When it is not necessary to go into the abdomen the Alexander operation is the one of choice. This latter operation has an important field in uncomplicated cases, in the young, unmarried or nulliparous when the pessary has failed to cure. (1) It saves embarrassment and discomfort of long, tedious, unpleasant and oftentimes unprofitable local and mechanical treatment; (2) it does not in anyway interfere with subsequent pregnancy, the ligaments undergoing evolution and involution with the uterus; (3) it avoids opening the peritoneal cavity; (4) it does not create any peritoneal adhesions and parturition following, it is smooth and undisturbed; (5) it gives anatomic and symptomatic cure in a very large majority of cases. Alexander's operation has been opposed on the ground that the uterus when normally anteverted, lies well anterior to the external abdominal ring through which the round ligament emerges to its attachment. The round ligament is none the less, however, capable of supporting the uterus forward. The ligament is sometimes difficult to find, but it may be found in three ways: (1) Through the external abdominal ring; (2) by puncture through the roof of the inguinal canal (Alquie), or over the site of the inguinal ring (Kellogg); (3) or by laying open the entire canal as practised by Edebohls. Intraperitoneal shortening may be practised either by looping the ligaments after scarification and then thus ligating them in this position or by cutting them off close to the cornua and passing the cut ends through the broad ligaments and making them fast to the posterior aspect of the organ. Vaginal shortening of the ligaments is an operation of German origin. Ventrosuspension is indicated in those cases where abdominal section must be performed in doing conservative operations upon the adnexa. Kelly devised the method having for its object the formation of an additional false peritoneal ligament which suspends the uterus forward and yet, concedes its untrammeled physiologic mobility. Toweler detaches the urachus and suspends the uterus by it.

The Pathogenesis and Treatment of Eclampsia.—The following conclusions as regards the pathogenesis of eclampsia, embodying the latest views concerning the nature of the disease are arrived at by V. V. Stroganoff (Russky Vratch, No. 31, 1902). (1) Eclampsia is a disease sui generis with a definite pathologo-anatomical and clinical picture peculiar to itself; (2) The theory of its fetal origin lacks confirmation at the present date, and is contradicted in a general way by many of the phenomena of eclampsia. (3) The uremic theory of eclampsia has been recently refuted even more effectually than formerly. (4) Eclampsia is to be logically considered rather as an infection than an intoxication. (5) Literary data as well as clinical investigations of recent data confirm more and more the infectious theory of eclampsia. (6) Eclampsia is comparatively of greater frequency in lying-in hospitals than in private practice. As regards treatment great reliance is to be placed upon the old and tried remedies, morphine and chloral hydrate, administered in doses commensurate with the severity of the convulsions, the first day or two after the attack. Morphine acts principally by lowering reflex irritability and chloral hydrate as an antispasmodic. If the convulsions are very frequent we first administer chloroform, before morphine and chloral can exert their effects. Delivery is the next means in causing cessation of an attack. In 50 per cent. of the cases convulsions cease either immediately or after one or two attacks; and the author resorted to it in cases where the operative interference did not seriously threaten the lives of either the mother or the child. This, however, does not exclude resort to Cesarian section, which is employed only in exceptional cases, as in the extraction of a living child from a dead mother. The introduction of some fluid into the system is another urgent indication as evidenced by the unconscious state of the patient and the sometimes considerable excretion by the skin and even kidneys. A liter of normal salt solution and sometimes a goodly quantity of milk will tend to increase the urinary secretion and strengthen the action of the heart. The proper posture of the patient, cleansing of the mouth and nose, avoidance of unnecesary examinations, the employment of oxygen, strophantus and digitalis—are all important factors in the treatment of eclampsia, as regards both the mother and the child. These means should at any rate be resorted to preferably, if possible, to Cesarian section, mutilation of the fetus and other varieties of forcible delivery.

Rupture of Uterus in First Stage of Labor.—In summarizing the interesting points of causation of this accident, during the first stage of labor, E. W. TWEEDY (Br. Jour. Obstet. and Gyn., Oct., 1902) gives the following: (1) The first stage of labor begins when the polarity of the uterus is established; (2) uterine polarity results from an overstretched condition of the nerves which course through the lower uterine segment, and are distributed to the circular muscular fibers of the cervix. The painless uterine contractions and retractions of pregnancy thin out and stretch the segment and thus ultimately induce polarity; (3) the cervix having fully dilated does not necessarily imply a sufficiently open os to permit of the passage of the fetus; (4) the anterior cervical lip is not easily nipped or incarcerated between the pelvis and the descending fetus. The cause is due rather to the retracting posterior cervical lip and the consequent dragging upward of the os, which can not sufficiently dilate to permit the passage of the fetus through it; (5) such an os will almost certainly, in the case of a primipara, rupture in order to permit the commencement of the second stage of labor, *i.e.*, an expansion sufficiently large to permit the passage of the greatest diameter of the presenting portion of the fetus through it; (6) such a laceration cannot be treated by an immediate suture, not alone because of the great edema of the anterior lip, but chiefly for the reason that the posterior lip is taken up, and there is nothing therefore to which to stretch it; (7) a multiparous cervix is not always the weakest part of the uterus. When this is so a uterine rupture occurring as a consequence of a rigid os, will be preceded by more of the usual premonitory symptoms, and the tear will be most likely to involve the vagina.

Premature Labor by Artificial Methods.—From the first of Oct., 1880 to 1900, in 35,062 accouchements, in 93 cases, labor was induced at the Vienna Clinic. Of the various methods employed, R. LABUSQUIÉRE (Annales de Gyn. et d'Obstet., Sept., 1902) has gone into a minute discussion as to the efficacy and value, the indications and contraindications of the same. Fifty-seven of the cases had some sort of pelvic stenosis. The conclusions of the writer are as follows: Artificial delivery is applicable to multipara when the life of the infant is at stake and the mother refuses either Cesarian section or symphyseotomy. This sort of a case is relatively often met with in private practice. In primiparæ it is necessary to place the indications of premature delivery with great circumspection, as the prevailing ideas of natural delivery are at fault. An increase in the size of the child, with pelvic dimensions unfavorable, serve as points of information; but in every case among primiparæ the employment of premature accouchement should be guardedly undertaken. The consequences for the mothers are, in spite of the brilliant results which certain operators have obtained with Cesarian section, notably better than those furnished by the latter operation. In consequence, premature delivery by artificial methods for stenosis of certain ends, a legitimate operation in private practice, and it must be taught to the students at the clinics.

Accouchement in Rachitic Pelves.—A very interesting article, bearing especially upon the statistics and prognosis both to the mother and child, is published by J. L. VALENCY (L'Obstétrique, Sept., 1902). In 520 rachitic pelves, spontaneous delivery occurred in 397 and operation was necesary in the 123 remaining cases. In the later group the external conjugate varied from less than 9 c.m. to 11 c.m. In these cases there were 36 versions, 42 induced labors, 64 forceps cases, 8 by basiotripsy, one symphyseotomy and one rapid delivery. Among the spontaneous deliveries, certain of the women who were multiparæ had had previous operative deliveries. The prognosis for the mother depends as much upon other factors as upon the anatomical conditions of the genital tract. The general health must be taken into consideration in view of the strain put upon it by the process of delivery. The length of the labor, the frequency of examination, the excessive pain, the more or less hasty rupture of the membranes, the stoppage of the fetal head, more or less prolonged at the plane of the superior or inferior strait and the more or less recent death of the fetus, all add materially to the collapse of the mother. Rupture of the uterus is happily rare. Primary or secondary hemorrhages do not frequently occur. It has been said that contracted pelves are a factor in the causation of puerperal infection but this is undoubtedly not a cause, but simply a contributing factor. Rupture of the symphysis pubis has been reported in three instances, but the author thinks that the rachitic contraction was not the cause that led to the rupture. In the operative case, the mortality was 3.25 per cent. and for the whole 520 cases a mortality to the mother of 0.76 per cent. The prognosis in general is more unfavorable for the child than the mother. In 13 of the 520 cases, prolapse of the cord occurred, 6.01 per cent. of the spontaneous deliveries gave dead infants. These were 24 of 399 children. Two died because the malformations were such that life was not possible. One had perforation of the esophagus; another perforation of the duodenum; one congenital syphilis; two contracted bronchopneumonia; one had an infection of the umbilicus; and one contracted erysipelas. The 17 others were stillborn.

Exstrophy of the Bladder Complicating Pregnancy and Labor.—An interesting case of this kind, together with a split pelvis, is reported by J. ADAM (Br. Jour. Obstet. and Gyn., Oct., 1902). The patient was a well-nourished young married woman, aged twenty-two. Examination of the abdomen showed the following three structures from above downward: (1) An umbilical area of about three inches, covered with a thin parchment-like membrane, yet with no large hernia; (2) a vesical area immediately adjoining the umbilical area above, of about the same diameter, and extending below to a tissue which replaced the symphysis pubis, this area being really a small portion of the bladder-wall; (3) below the vesical area and separating it from the vaginal orifice was a very thin fibrous band uniting the gap between the pubic bones. This gap measured three and three-eighths inches. The lower end of the recti muscles seemed to be attached to the bones and not to the fascia, and converged upward to the middle line above the umbilical area. The vaginal orifice was surrounded by a soft fringe of mucous membrane, and with difficulty admitted two fingers. The os uteri was within an inch of this orifice, the anterior fornix being easily reached in front of the os, but the posterior fornix lying much deeper, say two and a half inches. There was no trace of a clitoris. Previous to conception menstruation had always been easy and regular every four weeks. During the latter three months of pregnancy the patient had to lie in bed owing to edema of the labia minora and threatened prolapse of the uterus. At term the patient went into labor, and after three days of irregular pain gave birth to a healthy female child weighing probably six pounds. The anterior portion of the perineum and the soft fringe about the vaginal orifice were torn, because of the fact that the parts were constantly bathed in the urine infection and sloughing took place. However she responded to treatment and fully recovered. The patient declined an operation for exstrophy.

Acardiacus Anceps.—In all cases of double monstrosity there is, to begin with, one ovum the varieties in form and degree being determined by the extent and situation of the fission of the embryonal Anlage, says KEDARNATH DAS (Br. Jour. Obstet. and Gyn., Oct., 1902.) When the splitting is complete and the two portions of the embryo go on to perfect development, there are born the so-called homologous or uniovular twins. Up to the twelfth day the two develop evenly. At that time the allantois buds out from the hind gut of each individual, and its vessels reach the placental portion of the chorion. According to the degree of the development of the allantois and placenta of the second embryo, one gets several varieties in acardiac fetuses. (1) A. anceps characterized by non-development of the face and anterior part of the body. This species is rare. (2) A. acephalus, which is the most common species; head wanting or rudimentary. Intestines and abdominal organs rudimentary and merest trace of the organs above the diaphragm. (3) A. amorphus. Least developed. Little more than a lump of connective tissue covered with edematous skin. (4) A. acarnus. Rarest. Head alone present, but never fully developed. The author has collected 45 cases from the literature. Acardiacs are said to be rarely born in first labors (Geoffroy St. Hilaire) but five of these 45 occurred in primiparæ. In six cases gestation went on to full term. The perfect twin is said to be born first. The sexes of the twins are said to be identical. Hydramnion is usually present. The theory that these monstrosities are due to maternal impressions, is untenable. Almost all varieties of monstrosities have been produced experimentally upon the eggs of birds and upon lower animals by the action of physical forces external to the embryo. Amniotic bands or adhesions frequently arrest development, causing anomalies. Tissue of the embryo is possible from mechanical force. A. Keith suggests that inquiry into the condition of the mother during the weeks following conception might throw some light upon the cause.

Secondary Puerperal Hemorrhages.—From the small amount of space allotted to this subject in text-books on obstetrics, it must be regarded as a rare occurrence; such is not the case, however, and too much stress can not be laid upon the importance of the fact, says L. W. ATLEE (Amer. Jour. of Dis. of Wom. and Child., Oct., 1902). There are certain hemorrhages which can not be properly called postpartum and are not due to inversion of the uterus or to lesions of the genital tract. Parvin divides the causes of these hemorrhages into: (1) Alteration of the blood, albuminuria, purpura, malaria; (2) psychic causes; (3) direct causes belonging immediately to the uterus may be included under two general classes—those which prevent uterine retraction, and those which produce uterine congestion. Secondary uterine inertia, uterine fibroids, and probably uterine adhesions may be included in the first. The author is inclined to believe that the hemorrhage would manifest itself as a primary than a secondary bleeding, and the serious loss of blood of this latter nature will most frequently be due to the presence in the uterus of clots, placental remains or that unusual but possible cause, a placenta succenturiata. Bleeding has been seen in cases where uterine involution has been retarded owing to mild septic endometritis, when the patient begins to walk about and remain erect for any length of time; but it is not probable that the loss of blood approaches seriousness. Should a clot occur in the uterus after delivery, it is best to remove it, as it is liable to produce bleeding. Fibrinous polypi of placental nature have been known to cause serious and even fatal hemorrhage in the puerperal condition. Among the unusual causes may be mentioned the presence of a rapidly growing ovarian cyst crowding the uterus upwards. In the same class such causes as coprostasis, distention of the bladder, coughing, aneurism of the uterine arteries, and thrombosis of the cervix are referred to by Parvin. The treatment of secondary puerperal hemorrhage must be directed to the removal of the cause; its prevention is a part of the art of midwifery. Attention should be directed to the uterus, particularly to its interior, which should be explored by the finger, as no instrument can take its place for this purpose. If the cause cannot be found in the uterus the blood should be examined for such conditions as purpura or albuminuria, etc. No matter what the cause of hemorrhage, the after-treatment should be directed to maintaining the uterus firmly contracted, and this is best accomplished by the use of a reliable preparation of ergot. Other procedures are to be tried should this fail.

Hydrorrhea Gravidarum.—A sudden discharge of watery fluid from the vagina during pregnancy naturally suggests the commencement of labor, and, it is of practical importance in a given case to determine the source of the flow. W. SINCLAIR BOWEN (Am. Jour. of Obstet. and Diseases of Wom. and Child., Oct., 1902) points out that the fluid may not have come from the amniotic sac but from some portion of the decidua due to the fact that there is an existing "deciduitis." Deciduitis is a characteristic endometritis modified by the changes in the uterine mucosa peculiar to pregnancy. The disease may be acute or chronic. The acute form may be divided into: (1) The infectious or exanthematous; (2) the hemorrhagic, and (3) purulent. Chronic deciduitis is a much more common complication of pregnancy and is a predisposing cause in a majority of earlier abortions. There are four varieties of the chronic form differing in clinical history, severity, and in the constituent element of tissue involved: (1) The diffuse hyperplastic; (2) the polypoid; (3) the cystic, and

(4) the chronic catarrhal. There is an uncertainty as to the exact etiology and pathology of hydrorrhea gravidarum. The exact source of the fluid is as uncertain as its pathology, and it is more than likely that all the constituent elements of the decidua contribute to the formation of the fluid. The discharge may take place suddenly without any warning, or there may be some discomfort due to uterine contractions. The fluid is clear, thin or pale yellow, containing albumin. The flow occurs several or more times. The os is closed. In rupture of the amniotic sac the occurrence is usually at the end of the pregnancy and immediately precedes delivery. Labor pains have usually been going on for some time. The discharge is but once. The liquor amnii contains but a trace of albumin, but an abundance of urea.

MEDICINE.

Castor Oil in Typhoid.—In order to prevent so far as possible the absorption of toxins from the intestinal tract, in cases of typhoid fever, attempts have been made by the use of purgatives and antiseptics to get rid of fermentation and favorable culture media. Most authorities, however, have now concluded that antiseptics cannot be given in strong enough doses to be of much value and active purgation not only causes considerable drain upon the system but increases the danger of hemorrhage and perforation. C. C. BASS (St. Louis Med. Rev., Nov. 25, 1902) during the past season has employed castor oil in a wide experience in order to prevent the accumulation of fermenting material and to act as an emollient to the mucous membrane of the intestine. He has found that the best results are obtained when a moderate dose is given every 12 hours in order that one or two good movements may be had daily. In this way the characteristic odor of typhoid stools is entirely abolished, showing that a marked change has occurred in the intestinal contents. Furthermore, meteorism is seldom an important symptom when this line of treatment is adopted. The drug does not cause violent peristalsis and does not have a depleting effect upon the system.

Early Stages of Inebriety.—It is seldom appreciated that inebriety is a chronic condition which follows a progressive line of dissolution from a certain origin and development down to chronicity and death. The earlier symptoms are seldom recognized or are attributed to various functional or organic weaknesses and the true nature of the disease is usually understood only when the victim has gone far on the road to destruction. T. D. CROTHERS (Med. Rec., Oct. 25, 1902) points out that heredity is the largest and most prominent factor in the causation—an heredity that dates back to inebriate, insane, idiotic, epileptic or consumptive parents. He divides the symptoms into two groups, the free-alcoholic and the post-alcoholic stages. During these stages a number of prominent symptoms appear and increase up to a certain point, where inebriety is recognized and then they change and are lost in other and more distinct signs of progressive degeneration. Thus a child at puberty, or later at full manhood, will develop an unstable brain and nerve organism easily exhausted, associated with a capricious appetite for food and drinks. This will continue with varied and complex neurasthenic states till inebriety manifests itself unmistakably. These symptoms of brain instability and food delusions may appear in previously healthy men, following illness, injury or mental shock. Thus the more accurately the early history of inebriates is traced the clearer the evidence of a progressive order of symptoms appears before spirits are used. Another class consists of those who have been profoundly poisoned by alcohol, then abstained for an indefinite time and finally become inebriates. Many temperance workers, sensational preachers, lawyers and literary men are found in this group. The incipient stage may be briefly noted as one in which the higher brain centers gradually lose the power of performing their higher and more complex functions. States of neurasthenia with food delusions produce exhaustion which opium and alcohol relieve. The ultimate result is easily seen. If these earlier states could be recognized and treated properly, no doubt much of the subsequent misery could be avoided. The mistake is frequently made of sending the boy to sea or to the army or to travel where his eccentricities are ridiculed and his degradation hastened. The recognition and study of these earlier stages will open up a field of prevention and cure that will undoubtedly attract a great deal of attention in the future.

Merycism.—After an extended review of the literature of this subject, L. FERRANNINI (Rif. Med., Oct. 11, 1902) reports a case of rumination in a young man—dating from early childhood which seems to bear out the widely-accepted belief in the origin of the affection in motor gastro-neurosis. A most interesting account of the mechanism of the process, as seen with the Röntgen rays, is presented. In order to provoke the phenomenon, a meal of eggs, bread and water was given; and a few minutes after ingestion of the food, the patient was seen to inspire deeply, the lower part of the thorax expanding, the walls of the abdomen protruding, especially in the epigastric region, while the head was extended; then suddenly the abdomen and lower part of the thorax were retracted, the trunk slightly flexed, the head bent toward the sternum and thrust forward; the bolus of food then appearing in the mouth. By means of the Röntgen rays, this rapid succession of phenomena was seen to be accompanied by dilatation of the lungs, especially in their lower part, and violent contraction of the gastric walls and diaphragm. Upon auscultation of the thorax during the ascent of the food through the esophagus a gurgling murmur was heard when the bolus contained much liquid and a soft flowing sound when more dry. The reaction of the food thus returned to the mouth was neutral save in the last portions, when there was a faintly-acid reaction, this being due neither to free hydrochloric nor organic acids. The digestive, motor and absorptive powers of the stomach were found to be normal, as shown by the classical tests. The neuropathic nature of the affection was well illustrated by the fact that the patient, impressed with the elaborate details of successive examinations, declared himself much improved, though no treatment had yet been administered. An attempt was made to control the motor excitability of the stomach by administration of neutral sulphate of atropine in one-half to one mgrm. doses; but unfortunately, the patient failed to return after this treatment, and his subsequent history is unknown.

Musical Heart-Murmurs.—An analysis of two cases exhibiting musical heart-murmurs is given by M. DE VIVO (Rif. Med., Oct. 4, 1902) and from a study of such murmurs in general, the following conclusions are drawn: The causes of musical murmurs are various, such as vibrating filaments upon the heart's internal surface; thickening and contraction of the tendinous cords of the mitral valve; pericardial filaments; calcareous and fibrinous deposits causing rhythmical decrease in the opening of the vascular lumen; diffuse vascular atheroma; and finally, a calcareous deposit in the lumen of the aorta, as in the first case reported, and elongation of the anterior mitral valve by organized inflammatory deposit, as in the second case. The mechanism of musical heart-murmurs may depend upon the vibration of filaments, tendinous cords or valvular excrescences; or again, upon the breaking up of the blood-current by calcareous or fibrinous concretions within the lumen of the aorta.

Nephritis in Smallpox.—Considering the high fever, the serious impairment of skin function and the septic absorption from numerous pustules that accompany severe cases of smallpox, it would be reasonable to suppose that the kidneys would be in danger of injury. Most writers of text-books dismiss the subject of renal complications in a few sentences, acknowledging however the presence of an albuminuria or a true nephritis in certain cases. A contribution to this subject has been made by W. M. Welch and J. F. Schamberg (Phil. Med. Jour., Nov. 1, 1902) who have based their observations upon 1,088 urinary examinations in 128 cases of smallpox. They found that albuminuria is more common in this disease than is ordinarily believed, having been present in 65 per cent. of the cases examined. The fact that tube casts were found in 45 per cent. of the cases warrants the assertion that the albuminuria in most instances is the expression of a structural change in the kidneys. Cases of discreet variola and well-marked varioloid have been accompanied by nephritis almost as often as cases with more profuse eruptions. This would suggest that the kidney involvement is the result of the influence of the smallpox poison. The clinical symptoms are as a rule mild, and not as obvious as those of a scarlatinal nephritis. During convalescence a slight albuminuria was noted in 75 per cent. of the cases. The authors call attention to the probability that the damage done to the kidneys, if unrecognized and uncared for, may eventually cause a chronic Bright's disease. They believe therefore that the urine of convalescents from smallpox should be carefully and repeatedly examined and the diet and mode of life regulated accordingly.

Kahler's Disease.—An interesting case of Kahler's disease or multiple myelomata of the bone is published by G. Jochmann and O. Schumm (Zeitsch. f. klin. Med., Vol. 46, Nos. 5 and 6). The diffuse neoplasm had destroyed the spongiosa of the vertebræ, ribs, sternum, pelvic bones, humerus, femur and several bones of the foot and had converted the cortical portions into a thin paper-like shell. The term myeloma is generally applied to those tumors which are exclusively located in the bone-marrow, resemble its structure and do not form metastases in the internal organs. They must be distinguished from lymphata and from myelosarcomata. The clinical symptoms of the case were pains in the hips with an inability to walk, tumefaction of the sternum, with later hyphosis of the dorsal vertebræ and spontaneous fracture of the neck of the femur. The blood showed anemia and the urine contained as much as 0.35 per cent. Bence-Jones bodies during the last weeks of the illness. The entire duration of the disease was 1½ years. The most interesting symptom of the disease is the presence of Bence-Jones bodies, a hetero-albumose, in the urine. Though not found in true osteomalacia, they may occur rarely in endotheliomata, chondrosarcomata and round-cell sarcomata of the bone-marrow and occasionally in leukemia. The urine of the quoted case was turbid, and acid in reaction, with a specific gravity of 1,020. The following reactions were obtained: (1) On boiling, a flocculent precipitate formed, which increased in amount on cooling; (2) with nitric acid a distinct ring formed; (3) acetic acid and ferrocyanide of potassium gave a precipitate; (4) if nitric acid was added after boiling the precipitate did not disappear; (5) the biuret reaction was positive; (6) boiling with an alkaline lead solution gave a blood color; (7) a white precipitate formed with Millon's reagent. The reactions for albumose were readily obtained with that part of the precipitate which formed at 53° C. This same albumose could be found in the blood after death.

Hematology of Gastric Cancer.—An elaborate study of blood changes in cancer of the stomach is reported by Mouisset and Tolot (Revue de Méd., Oct. 10, 1902). Four cases are cited as exceptions to the rule which declares that a notable diminution of the number of red blood cells occurs in this condition. One of these cases was five years advanced; the general health had remained fairly good. The others were cases only under observation for a few months; no marked cachexia had yet developed. As the general condition of these patients grew worse the red blood cells diminished in number, one instance only is mentioned as an exception to this rule. The hemoglobin index is commonly diminished in cancer of the stomach and the authors regard this as an excellent diagnostic sign in doubtful cases; where it is wanting, its absence may be attributed to the slow advance of the lesion. Of course it may be affected in any case by a sudden perturbation in the number of erythrocytes. Leucocytosis is apparently a late sign; it appears only in the period of marked cachexia, unless suddenly produced by inflammatory complications. There has been some difference of opinion concerning the value for diagnosis of the leucocyte formula in cancer. Hayem reported a relative and at times an absolute increase of both varieties of mononuclear leucocytes, diminution or absence of eosinophiles. Hartmann likewise insists that mononuclear leucocytes is a capital differential sign. Tuffier and Mileau report an increase of mononuclear cells as characteristic of the early stages of epithelioma, but found polynuclear leucocytosis in later stages. Marcel Labbé bases the diagnosis of cancer on polynuclear leucocytosis in the absence of fever. The present authors see no way out of this difficulty as numerous blood counts gave the most divergent and contradictory results.

A New Apparatus for Counting Leucocytes.—The utility of ascertaining the number of leucocytes in a patient's blood is now so great that in the opinion of R. Breuer (Berl. klin. Woch., Oct. 13, 1902) the time has arrived for the adoption of new apparatus for this purpose which will give more accurate and reliable results than are obtained by the Thoma-Zeiss apparatus. The latter is well adapted for the counting of red blood cells, but Breuer regards it as either unreliable or time-wasting in ordinary work with leucocytes; either the entire divided surface is counted a single time, giving uncertain results, or the chamber is repeatedly filled and a series of counts are made, which demand more time than generally can be spared. A larger counting-chamber, divided so as to be convenient for leucocyte counting only, is the proposed solution. Zappert, Elzholz and Türk have already introduced instruments which embody this reform. Breuer finds these instruments unreliable and difficult to manage in the hands of all but the most skilled hematologists. His own new apparatus employs a counting-surface of nine square millimeters. There are four vertical lines, placed one mm. apart, and twelve major and minor horizontal lines, the result being a series of oblong spaces one-quarter mm. high and 1 mm. wide. In an ordinary dilution of 1-10 Breuer's practice is to count five square mm., giving 400 leucocytes in a normal specimen containing 8,000 such cells per cubic mm. It will be remembered that in the Thoma-Zeiss apparatus in every-day use only a single square mm. is counted at one time. Breuer claims to be able to make reliable differential leucocyte counts without employing a dried specimen, but wisely restricts his claim to the differentiations of polymorphonuclear from mononuclear cells, and admits the value of a dried specimen for the identification of mast-cells and myelocytes.

THERAPEUTICS.

Value of Inhalations of Oxygen.—Inhalations of oxygen exert a very favorable effect and can even be life-saving in the dyspnea of heart and lung disease. E. ROGOVIN (Zeitsch. f. klin. Med., Vol. 46, Nos. 5 and 6) says that nobody who has seen the improvement in the subjective symptoms will doubt the value of oxygen. Besides a good influence on pulse and respiration, there is often an increase in the amount of urine, which is of great value in diseases of the heart. The efficiency of the inhalations can be considerably increased by artificial respiration especially in case of morphine poisoning. Good effects were also seen in eclampsia and carbon monoxide intoxication. The poor results obtained by some authors is due not so much to the oxygen as to its faulty method of application. Then again, not all forms of heart or lung disease are suitable and the case must be chosen. The effects of oxygen were also studied on animals in poisoning with various drugs. With strychnine, the convulsions developed later and were less severe and of shorter duration, and in some cases were absent altogether. Death occurred much later where the animals were kept in pure oxygen and the same was seen also when they were poisoned with morphine. Experiments with chloroform showed that the stage of excitement was prolonged and that the narcotic as well as the fatal dose was considerably larger. Where illuminating gas was employed, only one animal out of 12 died in oxygen, where the same dose proved fatal for 11 in air and the symptoms came on much later, generally without convulsions. Even with non-fatal doses the difference was very apparent. Favorable results were also obtained where the intoxication resulted from the vapors of aniline.

Strength of Digitalis in Different Seasons.—From a number of cases collected from literature, D. FOCKE (Zeitsch. f. klin. Med., Vol. 46, Nos. 5 and 6) concludes that intoxications with digitalis are more frequent during the second half of the year and that the toxic dose increases in size from autumn up to June, when fresh leaves reach the market. He also found that to produce the same therapeutic effect in hydrops, twice as much of the drug was necessary in the early part of the year, than in the late, and the same held true in endocarditis and acute febrile disease. In patients who took digitalis for many months, it was seen that the usual dose often failed to remove the symptoms in the spring. There is no question that the activity of digitalis depends in great measure upon the season, for the fresh leaves during August are four times as strong as the old ones.

Action of Salicylate on the Kidneys.—In none of the 33 cases examined by H. LUTHJE (Deutsch. Arch. f. klin. Med., Vol. 74, Nos. 1 and 2) where preparations of salicylic acid were administered were pathological structures missed in the urine. Frequently albumin was present, and almost constantly larger numbers of epithelial cells with red and white blood cells, casts of different kind and cylindroids. After the drug had been stopped for two to three weeks, the analysis of the urine again gave normal conditions. It thus follows that the usual doses of salicylates cause considerable irritation of the kidneys. Since different preparations were used the effects could not have been due to accidental impurities. An almost constant phenomenon was the appearance of calcium oxalate crystals in the sediment. Frequently a large number of casts was present without albumin and hyaline and granular forms were most common. Evidences of bladder-irritation were also seen. The experimental administration of salicylates to animals always caused a nephritis and the kidneys enabled the author to study the formation of casts. It appears that they are derived from epithelial cells which swell up and then unite. The renal origin of cylindroids was also proven.

Use of Iodothyrin.—Iodothyrin, the active principle of the thyroid gland is sufficiently long in commerce to permit an exact estimation of its value. E. Roos (Münch. med. Woch., Sept. 30, 1902) uses it most frequently in daily doses of one gram in parenchymatous goiter, but also with good result in larger doses in the more fibrous growths, though the cystic forms do not improve much. Most patients were well satisfied with the cosmetic results though palpable remnants almost always remained. Inflammatory and malignant thyroid disease were not treated internally. Cretinism was influenced favorably except where the patients were adults. Obesity was improved with moderate doses and even though the actual weight did not always diminish, many of the subjective symptoms vanished. An interesting observation was that iron caused a quicker improvement of anemia when given with iodothyrin. Great success has been reported in the treatment of arteriosclerosis, but the author's cases were not benefited, perhaps because the process was too advanced or the treatment not long enough. Psoriasis yielded more readily to external treatment after a course of iodothyrin.

Treatment of Typhoid Fever with Lactophenin in 450 Cases.—Lack of water during a typhoid epidemic forced the hospital authorities at Gelsenhausen to the exclusive use of an antipyretic drug in combating the prolonged fever and marked nervous alterations of this disease. Lactophenin was chosen in preference to phenacetin, salipyrin, quinine, *et al.* In one series of 25 cases the fever had reached the continued stage and in the entire group maintained about the same level. At midday (after which time the temperature from physiological causes ordinarily rises) each patient received 1 gram of lactophenin. In nearly every case the temperature began to fall in about an hour, and continued to decline for several hours, only regaining the original level after seven hours. The average fall was 2° to 2.5° C. Pulse and respiration remained fully as satisfactory as before the administration of the drug. The method generally followed throughout the epidemic, as described by C. VON SCHULER (Berl. klin. Woch., Oct. 13, 1902), was to administer three doses of lactophenin, respectively at 8 A. M., at 3 P. M. and again at 8 P. M. For adults each dose was one gram, for children 0.5 gram. The smaller dose was tried for adults but failed to influence the fever in any degree. Aside from the favorable influence upon temperature, the marked sedative effect of lactophenin was noticeable. Marked nervous excitation was present in 64 cases; without exception lactophenin quieted the central nervous system, promptly modifying symptoms of delirium after the first dose and producing a noteworthy improvement in mental tone within 24 hours. On the other hand the doses given (ordinarily one gram) were of no avail in the treatment of the peripheral nervous disturbances which so often cause pain in the extremities. In no single instance was any untoward result observed from the use of lactophenin. In view of the facts that the usual proportion of complications occurred in his large series of cases, and that the mortality was 9 $^8/_{10}$ per cent., Von Schuler sees no ground for the claim of any specific working of lactophenin in typhoid fever. The chief inference to be drawn from this series of cases is that where the water-treatment is impossible, the therapeutist will do well to fall back upon lactophenin as a drug which successfully combats important symptoms and which can be given for long periods without producing untoward consequences.

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TENEMENT HOUSE DOGS AND THE PUBLIC HEALTH.

THE chairman of the Aldermanic Committee on Public Health proposes to exclude dogs from apartments, flats and tenements and has introduced an ordinance to that effect. Ordinances more potent for good and for evil have been laid before the City Fathers from time to time, but rarely has any regulation touching the public health and comfort aroused such lively interest or so promptly and effectually divided the community into two hostile camps.

Tenement and flat-house dogs are no strangers to notoriety. It is said that every dog has his day, but these dogs have suffered or enjoyed public attention for many a day, and their virtues and vices are coming to be pretty well known. The proposed ordinance which is just now in the public eye emanates from a health committee of laymen, but is it not reasonable to suppose that, if there were need of such legislation, our watchful Board of Health would have discovered the need long ago?

There are persons who like dogs and persons who don't. We might even say, now that children have gone out of fashion among people of moderate means who live in flats, that there are people who need dogs. Yet, if this dog question is to be settled by a balancing of sentimentalities and personal needs it will call for a quality of human judgment which probably does not exist. Examined on such a basis the question presents interminable and bewildering complexities. Are lonesome women to be deprived of their pets? Is the Society for the Prevention of Cruelty to Animals to have its revenues cut off? Is pretty, clean, faithful Fido to be banished from his happy home because Prince has been untidy, noisy and ferocious? The Society of the Flat-House Thieves begs for the enactment of the proposed ordinance on the ground that it will encourage a struggling industry, but the dogs themselves declare that an Ounce of prevention is better than a Pound of cure. The one conspicuous failure in the political life of the lamented Col. Waring was his futile attempt to suppress the flat-house dog, and shall lesser men succeed where he failed? It is obvious that individual experiences and fancies should not be permitted to settle this overworked question. The thing to be decided is whether dogs in tenements and flats are or are not a menace to life or health. If they are, then away with them! If not, let us have peace, and the dog his bone.

From the medical standpoint the exclusion of dogs from houses occupied by more than one family is not necessary. For in such dogs rabies is at least a rarity, and the cases of parasitic diseases which can be traced to them are a negligible quantity. A more serious matter is the transmission of contagious diseases by dogs living in close contact with several families. Even if the dog is taken care of when the case is definitely diagnosed and isolated, the possibility remains that he has already acted as intermediary in carrying contagion to his neighbors. But it is precisely in this matter that we must trust the wide experience of the Department of Health. The latter alone is competent to say whether or not the tenement house dog is really a menace to public health and whether the keeping of such dogs should be universally forbidden.

THE IMPLANTATION OF SILVER FILIGREE FOR THE CLOSURE OF LARGE HERNIAL APERTURES.

DR. WILLY MEYER, in the *Annals of Surgery*, November, 1902, advocates the use of a ready-made netting of silver wire to close large hernial defects which cannot satisfactorily be treated by some method of autoplasty. Various continental authors have described the application of barriers of this sort improvised at the time of operation by approximating the borders to the hernial opening with a series of interrupted wire sutures. A needle with a long piece of much finer wire is then plied transversely and obliquely across these sutures until a regular fine network is formed. Such a network should be made at least three times the size of the hernial aperture.

This method was published by Witzel in 1890, and at almost the same time Göpel made public his results in the use of *ready-made* silver wire netting. For this the following advantages were claimed: (1) The tissues bordering the hernial aperture are less exposed to injury and constriction; (2) the time required for the operation is reduced; (3) the meshes of the ready-made wire pad are of equal and regular dimensions; a diastasis, even of small size, is less often met with; (4) the amount of silver wire left within the wound is reduced to a minimum.

In cases of umbilical and ventral hernia the shape of the net is round, oval, or quadrangular, with blunt corners; it is sutured upon the aponeurosis of the abdominal muscles bordering the aperture. In inguinal hernia the net has the shape of an acute-angled triangle with the base turned toward the median line, where a small excision has been made for the spermatic cord. It rests on the internal oblique or transversalis muscle, while its sides are attached to Poupart's ligament below and the muscles above. In three cases in which the author employed nettings of this description the results were in every way most gratifying. The patients were corpulent individuals and the conditions present made the chances of success with one of the ordinary operations very small. One patient has since died of an independent condition while the others have for periods of eighteen and eight months respectively, which have elapsed since the operation, remained cured and had no serious inconvenience from the presence of the foreign body.

ANIMAL PARASITES AND EOSINOPHILIA.

When methods of diagnostic examination that are distinctly technical and require time and practice for their application are first suggested there is sure to be serious objection on the part of those who think that the armamentarium of the physician is already almost too cumbersome. If new tests prove clinically helpful, however, it is not long before they are sure to be extensively adopted. At times it may prove that new uses for diagnostic methods develop while their original purpose may prove abortive. The result presents a striking answer to the ever-recurring question asked of science: What use are such observations? Facts are always precious and inevitably find a practical application in the field of science, although at first they may have seemed of only purely theoretical interest.

An appropriate illustration of the practical value of what at first seemed of scarcely more than speculative interest is the use of the differential count of the eosinophile cells as a pathognomonic test in obscure conditions due to animal parasites whose presence sometimes escapes detection. The discovery at Johns Hopkins some years ago of the fact that trichinosis is always characterized by a marked increase in the proportionate number of these white cells in the blood which exhibit the red granulations after the triple stain and had been consequently called eosinophiles was a source of no little gratification. Ehrlich's excellent original work on these cells had proved of great academic interest but scarcely more. Here was the eventual practical application. Trichinosis, in the absence of suspicions as to the kind of disease present, formed an extremely difficult diagnostic problem liable to be unsolved until after the fatal termination, and even if suspicions of its nature were aroused presenting a very trying puzzle to elucidate successfully. The differential blood count is however easy to make and eosinophilia will not only prove suggestive but may be absolutely confirmatory of suspicions. It seems clear that in the past mild cases of trichinosis have been diagnosed as muscular rheumatism and treated as such without any suspicion of the real cause of the illness. A simple examination of the blood will now do away with the possibility of such an error and perhaps prove life-saving by indicating for the patient himself or for friends who might partake of the same meat the source of the infection.

The *Filaria sanguinis hominis* is another parasite whose presence in the system is indicated by the occurrence of a distinct eosinophilia that is very rarely absent. Recent observations made by United States Army surgeons in the Philippines show that a careful differential blood examination with special attention to the number of the eosinophiles present constitutes the readiest way of reaching a definite conclusion in cases suspected of filariasis. This special blood indication seems to occur almost invariably and indifferently with the diurnal and nocturnal forms of the parasite.

Of late years the *Anchylostoma duodenale* has attracted ever-increasing attention. At first discovered as the cause of the anemia in tunnel workers in the St. Gothard tunnel and supposed at most to be endemic to the northern part of Italy from which the original cases observed came, the disease has proved to be very widespread. It was found among the workers in brick yards along the Lower Rhine in Germany and among outdoor workers in other parts of Europe where the drinking water of the workmen was liable to be infected by their excretions. It has been discovered since the American occupation of Porto Rico to be endemic on that island and the observations of the United States Army surgeons on the disease have solved the hitherto unsolvable problem of Porto Rico anemia and have proved the basis for the successful therapy of the disease. Anchylostomiasis, or Uncinariasis as it is called has also been found in the Philippines, and there are indications that many of the anemias of our Southern States are due to this parasite. The pathognomonic sign is the discovery of the eggs of the parasite in the stools but eosinophilia often occurs to a marked degree early in the cases and may prove a helpful adjunct to the diagnosis of the condition before the anemia has become so severe as to be dangerous.

Other intestinal parasites, especially the larger round worms and the tapeworms are apt to cause a blood disturbance characterized in its early stages at least by eosinophilia. This is said to be true of the *Bothriocephalus latus,* the short fish tapeworm so common on the shores of Italian or Swiss lakes or the Baltic Sea, where the custom of eating uncooked fish obtains. The disease is seen occasionally in this country because the parasite is extremely tenacious of life and has been known to survive for many years.

It would seem then that the staining of blood for exact counting of the comparative number of eosinophiles present may prove a helpful diagnostic sign in all cases of animal parasites, whether the habitat is the tissues, as for trichina, or the blood vessels, as for the filaria, or the intestines, as for the true vermes. It is not unlikely that early stages of *Cysticercus cellulosæ* infection may show a like reaction. The subject is well worthy of further study. The time appears to be at hand when the anxious mother's frequent question as to whether her young hopeful may not possibly have worms can be answered by an immediate examination of the blood without the delay and uncertainty of prolonged observation of the stools.

THE STUDY OF EPILEPSY.

A SYSTEMATIC and well-organized attempt to study epilepsy in its broadest aspects is a new innovation in medicine. Efforts of this sort in the past have been delegated to societies and sections for nervous disorders in general. With increasing specialization new societies are formed to consider special disorders. Hence we have the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, which met for its second annual meeting at the New York Academy of Medicine on Nov. 5. Its members are to be congratulated upon the interest of the papers and the large and widely representative audience present.

The program was arranged so that the practical questions concerning the disease were well brought out. It was an epitome of our present knowledge of the disease and a résumé of many of the more important advances in the study of epilepsy. The presidential address by Dr. Frederick Peterson was a carefully detailed account of the origin and progress of the modern movement in establishing special provisions for the epileptic class in Europe and in America. Special stress was laid upon the urgent necessity for endowments for research laboratories in order to discover the cause and cure of the disease.

The papers were so distributed that the etiology and pathology of the disease were considered in the afternoon session, while the evening was given over to reports and papers on the social and legal aspects of the disease and the progress made in establishing special provisions for the epileptic class.

The afternoon papers on the causes of the disease were by Doctors A. Jacobi and Roswell Park, and those on pathology by Doctors A. Meyer, L. Pierce Clark and Thomas P. Prout, while those of the evening were by Doctors E. J. Spratling, W. N. Bullard and William P. Spratling.

The society invites membership from all who are interested in any phase of the subject. Dr. Wharton Sinkler of Philadelphia was elected president for the ensuing year.

ECHOES AND NEWS.

NEW YORK.

To Abolish Coroners.—At a meeting of the New York State Medical Association of New York county last week in the New York Academy of Medicine it was voted to appoint a committee to investigate and report upon the advisability of abolishing the Board of Coroners in this city. The committee is to confer with the Committee on Legislation of the New York State Association and other committees representing medical societies so that the general opinion of the medical profession may be reached. The medical associations have interested themselves in the abolition of the office of coroner for several years. The office is now no longer a constitutional one and can be abolished by the legislature. The doctors favor the splitting up of the coroner's power between the Health Board, in so far as it relates to pathological matters, and to the magistrates in other affairs.

Victory for Tarrant Drug Company.—The Tarrant Drug Company has been successful in the first of the 30 suits brought against it for damages resulting from the explosion and fire that occurred two years ago at Warren and Greenwich streets.

Work of the Lying-in Hospital.—During the month of October the new Lying-in Hospital, Seventeenth and Eighteenth streets, Second avenue, has had 433 applicants for treatment, of whom 116 were admitted and cared for in the hospital wards. The number of children born in the hospital during the month of October was 82. For the same period in the Outdoor Department 296 applicants have applied for assistance in their own homes; 252 patients have been treated in confinement; 1,270 medical visits were made, and 1,066 visits to assist and aid, 281 patients being helped by trained nurses and a woman to perform various household duties. Through the Diet Kitchen about 500 quarts of milk and 500 loaves of bread, together with tea, coffee, sugar, and oatmeal, have been distributed to deserving cases, and 1,165 garments given.

A Harbor Hospital.—Progress is making in the plan to build a new island in New York Harbor, between Ellis Island and Bedloe's Island, on which to build a hospital for the care of immigrants suffering from contagious diseases. According to the Washington report, the improvement has been recommended by Supervising Architect Taylor, who has been at Ellis Island investigating the needs of additional accommodations for the United States immigrant station. The erection of a hospital on an island in the harbor is made necessary by the action taken in September last by President Lederle, when he notified Commissioner Williams that the Department of Health would, in the near future, terminate the agreement by which the city cares for cases of contagious diseases occurring among the immigrants at the Port of New York. Under the contract either the city or the government may terminate it on 30 days' notice, but President Lederle said that he fully realizes the responsibility of the Department of Health in the matter, and the department will continue to care for the contagious disease patients until the government has provided accommodations for them. "The patients from Ellis Island," said President Lederle, "should not be brought into the city limits at all. They are a source of infection from the time they leave the island until they reach the foot of East Sixteenth street. Besides, they have to be placed in wards where they subject other patients to the danger of mixed infection. In consequence of these mixed infections all the patients have to be kept in the hospital from 15 to 20 days longer than usual, under observation, even if they do not develop other diseases."

Health of School Children.—"School Sanitation" was the subject discussed before the New York Educational Council in the New York University building, Washington Square, on Saturday. Dr. Albert P. Marble, Associate Superintendent of New York city, was the principal speaker, according to the Evening Post, he said in part: "Not the least in importance in a system of education is health. If the mind is trained at the expense of the body, if the health is enfeebled in school or by unwholesome conditions, the latter state of the child is worse than the first. School authorities, health boards, and the public as a whole, have come to see that good health is the first requisite to a successful life. We have gymnasiums, instructors in physical culture, a physician to visit each school daily, an examination of each candidate for a place in the teaching corps —to see that no young woman with supersensitive nerves and a strident voice is ever placed before a class of children, to be tormented by the healthy ebullitions of their superabundant activity, and to turn that cheerful and sportive life into the bitterness of angry discontent. And we have schoolhouses palatial in their architecture and construction, fitted with every modern contrivance for beauty, for convenience, and for the safeguarding the health of our children—each one better than the last." Dr. Marble took up the subject of seats and desks, and described how the desks should slope, and how high they should be for each child. He said that the new school furniture is adjustable, but, as a rule, desks and seats are never adjusted, and, so far as he knew, there was no regulation for such adjustment. Mr. Snyder, Superintendent of School Buildings, corrected this by stating that the janitors of the buildings were instructed to adjust the furniture. The proper method of lighting the classrooms was next described, and the speaker advocated revolving desks, so that the pupils could be placed at an oblique angle to the line of windows. By such an arrangement, he said, no two desks would be parallel to each other. The schoolroom wouldn't look natural, but the children's eyes would be benefited, and the seats would be chairs and not shelves on hinges. "Now, if you reflect, can you see any law of either God or man which requires that school desks must be placed at right angles to the side walls, in straight parallel rows?" he said. "And is it a human law or a divine law that has placed the teacher's desk in the middle front of the room? Once there was a platform for every teacher's desk to stand upon—a kind of throne. Now the teacher sits on the same level with the children, and the heavens have not fallen." The windows should reach to the ceiling, and the sills should be three or four feet from the floor, to avoid reflections from the surface of the desks. Shades on spring rollers, white or a very light lavender, to shut out the glare of the sun, were said to be the right thing. Superintendent Charles E. Gorton of Yonkers said he had come to the conclusion that it was almost useless to try to teach teachers how to operate ventilating apparatus, and what was wanted was a system that would work in spite of the teachers. As for adjustable furniture, it was a failure unless the principal of the school was interested sufficiently to see that it was adjusted. Each child, he said, according to a report by a committee of doctors, should have a separate chair, with a slightly sloping spindle back. Another committee of specialists had decided that the best kind of shade was of a robin's-egg blue in color. In the Yonkers schools children are examined twice a year as to their weight, their chest expansion, their eyes, and whether there was any curvature of the spine. The results of this examination were kept on cards, which gave a history of each child's physical condition throughout the school period. Some children had received permanent benefit.

The New York University.—A large number of the New York medical body are interested in the results of a suit which has been carried on for several years between a number of their members and the New York University. By a recent decision of the Appellate

Division of Supreme Court another step has been taken toward the settlement of the controversy between the New York University and its former Medical Faculty, the members of which resigned in 1898, and formed the Cornell University Medical College. The Appellate Division confirms the decision of the lower court ordering the return of the building property to the former owners. The University Medical College, like all others of its kind, was originally and for many years a proprietary institution holding its charter through the New York University, but wholly independent of it in management. In the effort to improve standards and teaching it became evident that this proprietary quality should be eliminated, and the faculty accomplished this by the aid of a gift of money from Col. Payne, by which the ownership of the faculty was canceled and the property was placed in the hands of a corporation formed for the purpose, the faculty agreeing to accept smaller fixed salaries in lieu of the division of the profits. After a few years, with the intention of furthering the same object, it was agreed that the corporation which held the property and managed the affairs of the college, composed largely of members of the faculty, should transfer their property and functions to the New York University, and that the latter should manage the College through a Medical Committee of the Council composed of three members who should be satisfactory to the faculty. On nomination of the faculty two new members were elected to the University Council and with Col. Payne, the donor of the money, constituted this committee. Within a few months disagreements arose over a proposed consolidation with the Bellevue Hospital Medical College; the recommendations of the Medical Committee were overridden by the council and the faculty held that the agreement had been broken. Reestablishment of the original status was refused by the Council of the University and at the expiration of the year the faculty seceded and established the Cornell University Medical College, and the corporation which had transferred the property sued for its return. The New York University then took over the Bellevue Hospital Medical College as its medical department with most of its faculty. The property in question is valued in the pleadings at $150,000.

PHILADELPHIA.

Typhoid Still Increases.—Official health reports for the week ending Nov. 15 show 148 new cases of typhoid fever, an increase of 24 over the previous week The deaths were 10 as against eight for the preceding week. Health officials are unable to ascertain the source of the disease. The water supply is not held entirely responsible as the disease is present in the Twenty-first Ward which is supplied with filtered water.

Medical Alumni Smoker.—The first of the year's series of smokers and social entertainments to be given by the Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania was held in the Bourse Saturday evening, Nov. 15. The officers are: President, Dr. S. W. Latta; Vice-Presidents, Drs. Richard Cleeman, G. G. Davis, J. A. Scott, B. B. Wilson, A. C. Abbott; Treasurer, Dr. H. B. Carpenter; Secretary, Dr. B. Franklin Stahl.

New Wing for Rush Hospital.—Plans have been prepared for a new wing to be added to the Rush Hospital for consumption and allied diseases. With the completion of this wing a new system will be introduced at the hospital, that of dividing the building into small rooms instead of wards, each patient having an individual room. A similar change in the wards of the large building will probably be made later.

Pittsburg Medical Students on Strike.—A strike of 150 students at the West Penn Medical College in Pittsburg is reported to have occurred on Nov. 11. Some time ago two new members of the faculty introduced a new method for preserving cadavers for the dissecting room. This, it is said, did not meet with the approval of the students who went out with the avowed purpose of not returning until the old method of preserving the bodies is resumed.

Hydrophobia Still Not a Disease in Philadelphia.—The question of hydrophobia has again brought the coroner's office into controversy with a physician. A death certificate issued last Sunday by a Dr. Adams gave hydrophobia as the cause of death of a five-year-old boy. This certificate was turned down by the Bureau of Health when a burial permit was applied for, and the case made one for the coroner's office. The father at first refused permission for a postmortem, but finally yielded. He claimed that Dr. J. H. Musser had confirmed the diagnosis of the family physician. An official of the coroner's office replied that "every physician should know better than to issue a certificate giving hydrophobia as the cause of death."

Reception to Dr. Welch.—A reception was tendered Dr. William M. Welch, president of the Medical Society of Pennsylvania, by the Medical Club of Philadelphia, at the Hotel Bellevue, Friday evening, Nov. 14. Dr. Edward L. Duer, president of the club, presided. Brief addresses were made by several physicians. There were 190 physicians present, including members and guests.

Mayor Confident of Early Relief at Almshouse.—Mayor Ashbridge has practically promised early action by councils regarding the overcrowded and unsanitary buildings at Blockley and has advised the advertisement of bids for the new pavilions. He does not agree with Dr. J. V. Shoemaker in his proposed change whereby a department of charities would be created and the work of the Department of Correction transferred to the Department of Public Safety. The Department of Public Safety has so much work in connection with the hospital service that the mayor fears the red tape resulting from the change would interfere with the emergency service of the municipal hospital.

Suicide Ratio Shows Slight Drop During Last Year.—After showing the general increase of suicides from 1890 to 1900 common to the United States, this city showed a slight decrease during the past year. In 1890 the number was 95, a rate of 9.1 for 100,000 of population. In 1900 the number was 158, a ratio of 12.2. In 1901 the number fell to 153, making a rate of about 12 per 100,000 of population. This is one-fourth less than the average for 50 of the largest cities in the United States.

Judge Davis Defends Juvenile Court.—In a recent address upon the work and results of the Juvenile Court before the new Century Club, Judge G. Harry Davis commended that tribunal and said that its abolition would be a retrogression. A central authority over the probation officers is recommended. After saying that the prevention of crime was more economical than its suppression or punishment and pointing out the value of the court in that direction, Judge Davis summarized its work from June, 1901, to Nov., 1902. The court disposed of 1,793 cases. Of these, 1,112 were delinquents and 681 dependents. Only 27 of the youngsters were returned to court again, 24 appearing twice and 3 three times. The ages ranged from 10 to 14 years and two-thirds of the number were arraigned for petty larceny. Of these 104 were sent to the House of Refuge and the remainder either home, under probation officers, or to charitable institutions.

Officers for the North Branch of County Medical Society.—The North Branch of the Philadelphia County Medical Society has elected the following officers for the ensuing year: Chairman, Dr. H. Brooker Mills; Clerk, Dr. Frank C. Hammond; Committee on Scientific Business, Chairman, Dr. C. L. Felt; Drs. Shea, Shute, Tully, and Good; Committee on Increase of Membership, Chairman, Dr. W. A. Parke, and Drs. Robertson, Babcock, Gerhard, and Bemis. The meetings of the branch are held at No. 1611 Columbia avenue on the second Monday of every month, and all members of the medical profession, whether members of the County Medical Society or not, are cordially invited to be present.

Reforms in State Institutions Suggested.—The annual report of the Board of Commissioners of Public Charities, to be submitted to the next session of the legislature, directs attention to the fact that no steps have been taken by the State toward the erection of an institution for the care of epileptics, for which there is a pressing necessity in Pennsylvania. The board is of the opinion that additional legislation is imperative to prevent abuses in unincorporated institutions which claim to care for the aged and infirm class. Such institutions are too often under the control of persons possessed of poor judgment and little knowledge. Recommendation is made that all such institutions should be chartered, should have responsible managers, and that all entrance fees be invested and only the interest used for maintenance. Provision for the care of the criminal insane will be asked for by the setting apart for this purpose of a building at one of the penitentiaries. The board also suggests a uniform law to ensure the distribution without discrimination of the State aid to hospitals and kindred institutions.

Cause of Typhoid Fever at Atlantic City.—At the meeting of the Philadelphia County Medical Society, Nov. 12, Dr. Philip Marvel of Atlantic City read a paper on the subject of the recent outbreak of typhoid fever in that city. The number of cases was 72, most of them occurring in August and September. The nearest approach to this number was that of the outbreak in 1895 when 48 cases, clearly traced to a polluted milk supply, occurred. To investigate the epidemic of this year the Academy of Medicine of Atlantic City appointed a committee, of which Dr. Marvel was a member. The report of this committee showed that the extraordinary number of cases was due to the pollution of a part of the oyster supply at that period. Dealers had placed oysters to fatten in a canal in which a sewer pipe for convenience had been laid. A break in the pipe occurred and this resulted in the contamination of a portion of the fattening oysters.

Autopsy Statistics with Reference to Tuberculosis and Its Etiology.—At the meeting of the Philadelphia Pathological Society, November 13, Dr. Alfred Hand, Jr., read a paper on the above topic, the statistics including the autopsies performed at the Children's Hospital during the past 10 years. The entire number of autopsies was 332, of which cases 115, or 34.3 per cent., showed tuberculosis. The location of the oldest lesion in each case was noted with the following result: Bronchial, 65 per cent.; mesenteric, 8.7; undetermined (lesions generalized), 23; undetermined (lesions indistinct), 1.7; tonsils .8. Tubercles were present in the heart muscle in 8 per cent. of the cases showing tuberculosis. Dr. Hand had considered that bronchial lesions in such cases were due to infection from the air, but since the result of experiments made in this city in which those lesions developed in a monkey supplied with tuberculous food, there is some doubt regarding this point.

Tissue Changes Induced by the X-ray.—A paper giving the results of investigations concerning these changes was read by Dr. A. G. Ellis. Four cases were reported, in three of which microscopical studies were made both before and after exposures to the X-ray. The most interesting changes were noted in a scirrhous carcinoma of the breast, a portion of which had been given eight 10-minute exposures at intervals of two days, the remainder being covered by a lead shield. Softening of the exposed portion was noted after the fifth exposure. The entire breast was removed by operation and two portions studied. The softening was found to be due to a cavity 1.5 by 1 cm. in dimensions, this containing a fluid showing many large cells the protoplasm of which was almost entirely filled by fat granules. Surrounding the cavity were necrotic portions of the tumor, the epithelial cells being granular and broken with destroyed outline and fragmented or entirely degenerated nuclei. The same degeneration, in varying degrees, was noted in the other cases, two squamous epitheliomas and an endothelioma. But little change was noted in one of the epitheliomas which contained a very large number of "pearls." A summary of the cases showed: (1) Necrosis of cells and trabeculæ of varying degree; (2) increase of elastic tissue in the three cases examined both before and after exposure; (3) a tendency to occlusion of vessels by deposits on their inner surfaces. This was marked in some instances, slight in others; (4) practically entire absence of infiltration by polymorphonuclear leukocytes. In regard to the claim of Beck and others that the changes in X-rayed tissue are due to obliterative changes in blood vessels the statement was made that while these changes probably occur they are not in proportion to the necrosis. This suggests the probability of their being results of the same influence instead of cause and effect. The presence of immense numbers of cocci and bacilli in one of the cases after 20 exposures would argue against the bactericidal power of the X-ray. Unsatisfactory clinical results and slight microscopic changes in the epithelioma containing numerous "pearls" emphasizes the importance of cutting or curetting away diseased tissue whenever possible before X-ray treatment is begun.

CHICAGO.

Alexian Brothers' Benefit.—The annual benefit concert for the Alexian Brothers' Hospital was given a few days ago. The net proceeds were $5,000.

Superintendent at Dunning.—Dr. John R. Neely will soon be the new superintendent of this institution. The resignation of Superintendent A. N. Lange has been accepted.

Registration of Nurses.—Discussion of a bill for the registration of nurses, which will be presented to the next legislature, occupied the time of the members of the Illinois State Association of Graduate Nurses when they held their recent meeting. The bill was unanimously accepted by the nurses. A clause was inserted providing for the admission of registered nurses from other States to the Illinois Association without taking an examination, when the applicants are in good standing.

Smallpox in Evanston.—The smallpox situation in Evanston is discussed in the weekly bulletin issued by the Health Department. Chicago's freedom from the disease, as compared with the suburbs, is ascribed to the vaccination campaign waged by the Health Department. In part, the bulletin says:

"In Evanston, with a population of less than 20,000 by the last national census, there are now 33 cases of smallpox quarantined in 12 houses. In this city, with a population of 1,700,000 by the same census, there are but 11 cases, and these are all safely housed in the isolation hospital, and the premises on which they were found have been thoroughly disinfected."

Typhoid Fever.—Five more deaths from typhoid fever were reported last week than during the week before, but an examination of the physicians' certificates of the total 18 deaths shows that four of the cases were contracted outside of Chicago, and seven were of a duration carrying the period of infection back to the August water pollution.

The Shore Inn.—This is the name chosen for a new hospital, to be erected at once at Michigan avenue and Eldridge court. It is said the institution will be the most sumptuous of its kind in the country. The hospital is to be built, owned and operated by a corporation made up of the leading physicians of the city. The cost of the building and furnishings will be $400,000. The structure will be 11 stories high, and the inner arrangement will be more like a high-class hotel. Among the novelties will be bathrooms in each apartment, and accommodations for friends of patients. The officers elected are: President, Dr. Franklin H. Martin; Vice-President, Dr. B. W. Sippy; Secretary, Mr. R. T. Goodell; Treasurer, Mr. J. R. Chapman. These men, with Dr. Wm. M. Harsha, constitute the Directorate. It is thought that the new hospital will eclipse the Roosevelt in New York, the German in Philadelphia, and the Lakeside in Cleveland. The aim of the institution will be to provide the best for those who want the best. The hospital will be associated with no medical school, and it will be absolutely independent of religious sects.

Stockholders.—Among the stockholders, who will be attending physicians, are Dr. Nicholas Senn, Dr. Frank Billings, Dr. John B. Murphy, Dr. E. C. Dudley, Dr. Archibald Church, Dr. L. L. McArthur, Dr. A. J. Ochsner, Dr. Franklin H. Martin, Dr. W. A. Fisher, Dr. H. P. Newman, Dr. W. A. Evans, Dr. F. Henrotin, Dr. J. C. Hollister, Dr. E. J. Doering, Dr. Henry T. Byford, Dr. Harry B. Favill, Dr. Arthur R. Edwards, Dr. D. R. Brower, Dr. J. Clarence Webster, Dr. Joseph Zeisler, Dr. Fenton B. Turck, Dr. E. J. Gardiner, Dr. H. N. Moyer, Dr. E. Fletcher Ingals, Dr. Allen T. Haight.

Myasthenia Gravis.—At a recent meeting of the Chicago Neurological Society, Dr. Harold N. Moyer presented a patient, twenty-three years of age, whose early history was negative, except an undetermined infection of exanthematous type. The patient spoke of having had two attacks of measles about three years ago, but was not very ill. The attacks were near the time when his first trouble with the eyes developed. At that time glasses were fitted for diplopia. Dr. Pusey fitted the patient with his first glasses, and he would give the eye findings.

Dr. Pusey said the patient was first seen by him Nov. 6, 1899, when he complained of double vision. His vision in the left eye was 6/9; in the right eye 6/6; with minus one sphere with half cylinder his vision was 6/5 in the left eye, and 6/5 in the right eye. At that time he had esophia of 22 degrees, with right hyperphoria. The esophoria later became exophoria. On the 8th of December, one month later, he worked all day until midnight with no blurring of vision, no diplopia at the time. His esophoria had disappeared, but he had slight hyperphoria. On Jan. 4, 1900, he had esophoria of one degree, some hyperphoria. July 3, 1900, he saw him again, when he complained of double vision. He had exophoria of 11 degrees, with positive divergence of the eyes. August 6 he was refracted again carefully with a mydriatic. The refraction had changed ¾ D, he having become more myopic with ½ D cylinder at different axes. He then had an exophoria of 11 degrees. He disappeared on July 6, 1902, and was not seen again until the 26th of Sept., when he complained of double vision all the time, inability to converge the eyes. Vision at this distance was doubled. He noticed paralysis of the internal recti muscles. The eye muscles moved in every direction except the internal recti on both sides. There was no limitation of motion in any direction except the paralysis of convergence, also paralysis of motion on either side on the part of the internal recti muscle. Six weeks ago, there was limitation of motion of the muscles in every direction except one of the external recti. Dr. Moyer saw the patient Sept. 8, at which time there was a marked general weakness; patient complained of stiffness of the lower extremities, feeling as though his knees were bound, as the patient expressed it. There was some pain for a time, but this gradually disappeared. It was not very marked. On two or three occasions, since Sept. 8, patient has had marked ptosis, more marked in the left eye than in the right. It would last for two or three hours at a time, then for a couple of days. It has never been in both eyes at the same time. Until the middle of September there has been progressive loss of strength, which has continued to the present. There has been no marked increase in weakness in the last two or three weeks, but it has remained about as it was. The eyegrounds are normal. Aside from the extreme muscular weakness, there are no objective signs. There is no swaying with the eyes closed. Patient's knee jerks are not marked, but they are to be elicited readily. The superficial jerks are all present. The pupils react to light. At the present time there are no disturbances in pain sense; his sense of feeling is normal. It is simply a pure muscular weakness without appreciable muscular atrophy. There is no disturbance in his general health. His digestion is normal; his bowel movements are normal; his appetite is good; he sleeps well, but the muscular weakness is very pronounced. He has numbness in the index finger; the right hand is a little stronger than the left. The facial muscles are weak. A difficulty of which patient complains is a weakness of his jaw muscles; when he eats, his muscles get tired.

Cerebral Syphilis, Dementia with Nuclear Degeneration of Some Cranial Nerves and Atrophy of One-half of the Tongue.—Dr. Moyer presented a patient, thirty-seven years of age. Four years ago, August, 1898, the patient went to Dr. Ingals for paralysis of the vocal cords. At that time he was very hoarse. He learned from Dr. Ingals that there was complete paralysis of one vocal cord, while the other moved. Patient was given strychnia and local treatment, shortly after which the paralysis disappeared. A year later the paralysis returned. This was two years ago. Then patient was well until the summer of 1901, at which time he did not feel as well as he had previously. There was nothing marked in his history until the autumn of that year, and at that time he had what his wife described as "a spell." Sitting at the table he tipped over some glasses, staggered, and could not find his way about. At this time he was working very hard at his occupation of machinist. He improved until November, after which he became very tired and wanted to lie down most of the time. He slept a great deal. He ceased working last November. About that time he began to see double, the diplopia being vertical. In February of this year his right eye turned outwards. At this time the diplopia was lateral. He then developed pain over the right eye, which later shifted to the top of his head. He then consulted an advertising eye specialist who "pulled" the eye straight and treated him for one month. Pain then shifted to the back of the head. He resumed his work again during the spring, but did not remain at it very long. He could not work effectively; he could not keep his mind on what he was doing. He made mistakes. He finally had to give up. In June he went to the country, when his throat became worse again. He had some paralysis of the vocal cord, with hoarseness, which disappeared. A few weeks ago his mind began to wander, and it was noted that his memory was impaired. He had difficulty in swallowing, and at night has been wetting the bed. At the time Dr. Moyer first saw him, the patient had a typical Argyll-Robertson pupil on the right side. The light reaction was present in the left eye, but was sluggish. Accommodation of distance was normal in both eyes. There was complete paralysis of the right external rectus. The eye grounds were normal. The movements of the tongue were defective and tremulous. There is a history, although it is somewhat indefinite, of specific infection dating back to ten or eleven years. Some of the symptoms have disappeared under specific treatment. Patient has well-marked atrophy of the left side of his tongue. Under liberal doses of the iodides great improvement in the symptoms followed, particularly of the eyes. His memory is better, also his speech . There were two features of striking interest in this case, the nuclear degeneration, and dementia. The patient has had no emotional exaltation or mental depression. His mind has been weak and feeble; he could not remember where he put things; he could not go to a neighboring store for an errand without forgetting it before he got there. The association of nuclear degeneration with dementia he had not seen before. The atrophy of the tongue was organic. The reason he presented it in connection with the other case was because of the somewhat striking similarity in the eye conditions of the two patients, yet their etiology and pathology were very different. There is little doubt as to the specific history in this case, according to the statements of the physician who treated the patient. He thought the diagnosis to some extent has been cleared up by the marked improvement, both in the physical symptoms and mental state, under specific treatment. At first, when he saw the patient, and noticed the atrophy of the tongue, and paresis of the eye muscles, he thought he had to deal with a case of myasthenia gravis. In regard to the treatment of this case of myasthenia gravis, he had given him strychnia in very large doses.

Tabes, General Paralysis and Charcot's Joint.—Dr. S. J. Walker presented a man who came to the Policlinic Oct. 13th. He was forty-four years of age, married 14 years, and has three living children. The first child his wife had was born dead at term. The other three are living and well, aged respectively eleven, twelve and thirteen. The mother has never had a miscarriage. The patient's occupation was that of a buyer of dry goods. He gives a clear history of specific infection a little over 15 years ago. Otherwise he gives no history of any serious illness; he complained of no trouble until 10 years ago, when he said he had rheumatism in the legs. Upon close questioning him, these pains proved to be of a lancinating character. These pains have continued since, off and on. Seven years ago he had an ulcer at the base of his right big toe, which proved very intractable to the treatment, and consequently this toe was amputated. Three years ago he began to notice that he could not walk so well in the dark. For the last three or four years he has had difficulty in urinating, a relative incontinence. He has had no eye symptoms of any kind, not even transitory diplopia. No ptosis. This completes the history up to about seven months ago, when he fell and sprained his right ankle. At the time he said there was a great deal of pain in it, with swelling. The swelling extended as high as the knee. The pain continued off and on for five or six weeks, and then gradually subsided. Since then he has had no pain whatever in the joint, but the swelling of the ankle joint is still present and in degree about what it was a few weeks after the injury. An X-ray picture was taken by Dr. Hazelton, at the Policlinic, but the man shook so much that the Doctor did not succeed in getting a good skiagraph, so that the negative was valueless. The enlargement of the foot is not due to bony formation, in the opinion of Dr. Hazelton. He thought it was cartilaginous enlargement. The patient had been working at his trade up to the time of the injury, six or seven weeks after the injury, when he returned to work, he noticed impairment of his memory. He had considerable figuring to do on articles of apparel, and was discharged at the end of five or six weeks because of the mistakes he made in his work. Upon examination, the Argyll-Robertson pupil is found. He has no knee jerks. He has analgesia of the legs, and patches of anesthesia upon the trunk. He has slight analgesia extending over the patch of anesthesia on the right side behind. The anesthesia was marked in the patches that are shown on the chart. He has the characteristic stumbling speech. He has shown considerable dementia. In short the mental condition is plainly that of general paresis. The patient is exhibited on account of the rather unusual combination of diseases and the Charcot's joint. The diagnosis is made of tabes with perforating ulcer of the foot and Charcot's joint of the right ankle, and finally general paresis supervening on the tabetic affection.

Lead Palsy.—Dr. Walker also presented a man, who presented himself at the clinic on Oct. 13. He is thirty-three years of age, and works in a planing mill. He has five children, all of whom are well and healthy. His wife has never had a miscarriage. The family history is fairly good. The patient has never been exposed to metallic poisoning, so far as he knows, nor to arsenic, nor has he been subjected to any drug intoxication. Three years ago he was at the Alexian Brothers' Hospital for three weeks, and was thought to have consumption. A careful examination at the present time does not reveal any lesion in the lungs. He has never had any infectious disease, and has never been seriously sick. He considered himself perfectly well until about 15 weeks ago, when he noticed swelling in his wrists and in his ankles, with some pain. The pain passed out of the ankles almost immediately, and after two days in bed he was able to walk around. About the second day he noticed weakness in his wrists and hands, and at the end of three or four days he suddenly lost power in his wrists. In other words, he had double wrist-drop. Since then his condition has been about the same; no paresthesia; no subjective symptoms of any kind except wrist-drop. Upon examination Dr. Walker finds that patient has double wrist-drop with the supinator involved on the right, but not on the left, side. Paralysis of the extensors is more marked upon the right than the left side. Patient is right handed. There is partial reaction of degeneration in all the extensor muscles, and supinator on the right side, this being more marked on that side than on the left. There is no objective sensory disturbance. His knee-jerks are equal and normal. The one pupil responds to light and to accommodation (the other eye is artificial). Patients looks cachectic, and an examination of the blood shows 75 per cent. hemoglobin, reds 3,568,600, whites 2,100. Dr. Walker spoke of one thing which may be a very valuable indicator in cases of lead poisoning, and that is the presence in the red cells in nearly every case of lead poisoning, if the case is at all severe, of little granulations. These are found in every field in any severe case of lead poisoning. From a medico-legal standpoint, Grawitz, of Berlin, who does much good work on blood, regards these small granulations of great value, because when once present they do not disappear until the lead is out of the system. Dr. Walker examined this patient's blood for these granulations in the red cells, and was unable to find them. He examined five or six specimens, each one of which was negative. This man is not addicted excessively to either alcohol or tobacco. At most, he drinks four or five glasses of beer daily, and usually not that much. Patient was closely questioned as to exposure to metallic poisoning, and Dr. Walker had not been able to elicit any cause for the enuritis. It corresponded in distribution to lead palsy, except that the supinator on the right side is involved. The patient has a questionable lead line. The condition of the gums is so bad, almost scorbutic, that it is difficult to say positively that there is a lead line. He has never had lead colic, although that is usually the rule preceding lead palsy.

CANADA.

Annual Meeting—Montreal Maternity Hospital.—The fifty-eighth annual meeting of the Montreal Maternity Hospital was held last week with Dr. Roddick in the chair. It is proposed in the near future to erect a fine new building at a cost of $100,000. A site has been secured at a cost of $25,000. The medical report which was presented by Dr. J. C. Cameron showed that there had been 239 patients treated during the past hospital year of whom three had died. A donation of $1,000 was recently received from Mrs. James Ross towards the building fund.

No Sanitarium By-law for Toronto.—During the past week the Board of Health of the city of Toronto met and considered the proposal of the Anti-Consumption League for the submission of a by-law at the municipal elections in January to secure a grant of $50,000 to inaugurate a fund for a free consumption sanitarium to be erected within 12 miles of the city, the League undertaking to raise another $50,000 by private subscription. It was decided in the face of a numerously signed petition to oppose the submission of any such by-law. The Medical Health Officer, Dr. Sheard, told the Board that Toronto was in a much better position now than it was a year ago as regards the treatment of consumptives. No hospital in the city would refuse admittance to any bedridden consumptive; and since June 9th last the Gravenhurst Sanitarium had received 27 incipient cases on city orders.

New Memorial Hospital Opened.—On Nov. 20 a fine hospital was opened in the town of Lindsay, Ontario. It consists of a main building and two large wings; and is to be known as the Ross Memorial Hospital, being the gift to the corporation of the town of Lindsay by Mr. James Ross, the multimillionaire of Montreal, in memory of his mother who for many years was a resident of the town.

A New Children's Hospital for Montreal.—It is proposed to erect a new hospital in Montreal in the near future, either on Mount Royal or in the country adjoining the metropolis, for the reception of children of eastern Canada suffering from such diseases as tuberculosis and deformities of the limbs or spine. The hospital will be built as a memorial to the late Queen Victoria and will be called "The Children's Memorial Hospital to Queen Victoria." It is to act as an adjunct to the General and the Royal Victoria Hospitals, and will have not less than 15 beds. The following have consented to act on the medical board: Dr. Francis J. Shepherd, senior surgeon, Dr. A. D. Blackader and Dr. H. B. Cushing.

The Matriculation of the Ontario Medical Council.—At the last session of the Ontario Medical Council a resolution was adopted regarding the matriculation of medical students which has caused those students who desired to practise in the province of Ontario, no little amount of concern. Apparently this resolution required all matriculants to present a certificate before being registered by the Council as a medical student that "He had passed the examination conducted by the Educational Department of Ontario of the course prescribed by the Honor Matriculation in arts, chemistry and physics." The students now want to know whether honors will be required in all subjects in the Arts curriculum, which they claim will be tantamount to prohibition of the study of medicine as very few now take honors in all the subjects. The Medical Department of Toronto University has taken the matter up with the Minister of Education, with a view to having the indefinite wording in the clause interpreted.

Aftermath of Hallowe'en.—On the night of Hallowe'en a body of Toronto Medical students were pursuing their way peaceably to their homes after having been entertained by Dr. Reeve, Dean of the Medical Faculty, were set upon by a body of mounted policemen who rode them down and with rawhide whips in their hands scattered them in all directions. The result was that some of the medical students received very serious injuries. Dr. Reeve who was an eyewitness of the whole affair, had the conduct of the police brought to the attention of the Board of Police Commissioners, with the result that after an investigation of several days' duration, the policemen have been heavily fined for exceeding their duty. The affair created a great deal of bitter feeling amongst the very large student body generally throughout the city.

GENERAL.

More Substitution.—We have had occasion from time to time to point out the enormity of this great evil whereby physicians not only do not get the drugs or proprietaries they actually prescribe nor the public their patent medicines and proprietaries. The substitutors are abroad. We learn from Massachusetts Medical Journal of Nov. 2 that attempts are being made to substitute inferior articles for Phillips' well known Milk of Magnesia, and we know the recent attempts in the same State to defraud the rights of the Breitenbach Company in their Gude's Pepto-Mangan. Similarly false capsules of Colchisal are now flooding the market.

Appointment of Professor Ribbert.—Professor Ribbert of Marburg is to take Professor Orth's place at Göttingen.

Vital Statistics in Germany.—From a recent German census, it appears that vitality is greater in women than in men. Of the former there are 655,196 between sixty-five and seventy years; while but 544,806 men have attained that age. Among the centenarians were found 9 men and 32 women; and of the latter, 3 were one hundred and five years old.

Golgi's Scientific Jubilee.—The jubilee of the illustrious biologist was recently celebrated at Pavia with appropriate ceremonies; and in the evening Professor Golgi invited his friends and visiting scientists to his home to celebrate his silver wedding which occurred coincidental with his professional jubilee.

A Correction.—The Surgeon-General desires to call attention to an erratum in the report of the

Surgeon-General of the Army to the Secretary of War for the fiscal year ending June 30, 1902. On page 45, the death rate from all causes for the year 1901 is incorrectly given as 19.94 per thousand. It should read 13.94 per thousand.

American Physicians' Congress.—The preliminary programme of the sixth meting of the Congress of American Physicians and Surgeons, to be held in Washington, D. C., May, 12, 13 and 14, 1903, announces the following subjects to be considered: "The Pancreas and Pancreatic Diseases." Papers will be read as follows, viz: By Dr. E. L. Opie, of Baltimore, Md., on the Anatomy and Histology; by Prof. R. H. Chittenden, of New Haven, Conn., on the Physiology and Physiological Chemistry; by Dr. Simon Flexner, of Philadelphia, Pa., on the Etiology and Pathological Anatomy; by Dr. Reginald H. Fitz, of Boston, Mass., on the Symptomatology and Diagnosis; by Prof. von Mikulicz, of Breslau, Germany, and by Dr. Roswell Park, of Buffalo, N. Y., on the Surgery; followed by a discussion by Drs. Chas. G. Stockton, Herbert U. Williams and Maurice H. Richardson. 8 P. M.—Address by the President of the Congress, William W. Keen, M.D., LL.D., Professor of Surgery in the Jefferson Medical College, on "The Duties and Responsibilities of Trustees of Medical Institutions." Wednesday, May 13, subject to be considered: "The Medical and Surgical Aspects of the Diseases of the Gall-Bladder and Bile Ducts." Papers will be read as follows, viz: By Prof. Ewald, of Berlin, Germany; by Dr. John H. Musser, of Philadelphia, Pa.; by Dr. C. A. Herter, of New York City, on the Pathology and Therapy; by Prof. Hans Kehr, of Halberstadt, Germany, A Review of Eight Hundred Cases of Gall-Stone Operations; by Dr. William J. Mayo, of Rochester, Minn.; by Dr. George E. Brewer, of New York City, on the Surgery; followed by a discussion by Drs. Frank Billings, George Dock, W. S. Halsted and Henry Sewall.

Virtue of Coffee.—Recent work of Professor Luderitz has brought to light additional facts concerning the antiseptic properties of coffee. It was found that in a pure infusion of coffee, five per cent., the typhoid bacillus dies in two to three days, and more rapidly if the strength be increased to 30 per cent. Pyogenic germs die within three days in 20 per cent. infusion, and the germ of erysipelas in a day, in an infusion of 10 per cent. This probably explains how the Persians cure their cholera patients through administration of pure, strong coffee in large quantities. According to Luderitz, the antiseptic principle is neither caffeine nor tannin, but a substance known as caffeone.

American Public Health Association, New Orleans, La., Dec. 8-13, 1902.—The Southern Railway announces for the meeting of the above association a rate of one and one-third fare for the round trip. Tickets on the certificate plan will be on sale December 4 to 10. The Southern Railway operates from New York three trains daily, carrying Pullman Sleeping and Dining Cars on all trains. From New York to New Orleans, 39 hours. The Municipal Journal and Engineer, of New York has arranged for special Drawing Room, Compartment Sleeping Cars to leave New York Saturday, Dec. 6, at 4:25 P. M., arriving at New Orleans, Monday morning, Dec. 8, at 7:25 A. M. This train composed exclusively of Pullman Sleeping, Dining, Club, and Library Observation Cars.

Changes in the Medical Corps of the Navy, Week Ending Nov. 15.—Medical Inspector J. R. Waggener, detached from the Marine Recruiting Station, Boston, Mass., and ordered to the Navy Yard, Mare Island, Cal. Surgeon J. W. Baker, retired, ordered to the Naval and Marine Recruiting Station, Boston, Mass. Surgeon N. H. Drake, detached from the Navy Yard, Mare Island, Cal., and to continue duty on "Solace." Passed Assistant Surgeon J. M. Moore, detached from the "Indiana" and ordered to the "Raleigh," when in commission. Medical Director G. F. Winslow, detached from the Naval Recruiting Station, Boston, Mass., and directed to wait orders. Acting Assistant Surgeon H. Shaw, appointed Assistant Surgeon from October 28, 1902. Passed Assistant Surgeon A. W. Dunbar, detached from Navy Yard, Puget Sound, Wash., and ordered to the "Wyoming" when commissioned. Passed Assistant Surgeon A. R. Alfred, ordered to the Navy Yard, Puget Sound, Wash. Passed Assistant Surgeon E. J. Grow, detached from the Navy Yard, New York and ordered to the "Marblehead."

Obituary.—Obadiah Newcomb, M.D., one of the oldest practising physicians in the city died yesterday at his home 233 East Twelfth street, in his eighty-second year. He was born in this city and had always lived here. He was graduated from Columbia College and in 1850 took the degree of M.D. at Castleton, Vt. He practised after that up to four days ago. His father was the Hon. Obadiah Newcomb, who served two terms as State Senator. Dr. Newcomb leaves two sons and a daughter.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, November 8.

DEATH OF LENNOX BROWNE—THE TRAGEDY OF A SURGEON'S LIFE—A STORY OF SIR WILLIAM JENNER.

Lennox Browne, whose name is familiar to all who take the upper air passages as their province of practice, died last Sunday of cancer of the liver. He was but little over sixty, and not long ago looked as if he had many years of life before him. Although he had a large practice, and contributed much to the literature of his specialty, he was less esteemed by his profession than by the public. He had many friends in Bohemia, hence it came about that readers of the minor society journals and newspapers of the baser kind had frequent opportunities of becoming acquainted with his name and achievements. He was assistant to Morell Mackenzie for seven years and in that position had a fine field of practice, not only in the art, but in the trade of specialism. And, like Shylock, he bettered his teacher's instruction. Mackenzie used to say of him and another of his assistants, who had not yet crossed the Styx, that if they could have been joined together, they would have made an excellent practitioner, Browne supplying the diagnostic faculty and the other the therapeutic resourcefulness. Browne's practice in his early years of independent work lay very largely in dramatic and artistic circles, and among the *minora sidera* of journalism. This line of business is not directly profitable here, but indirectly it is valued by aspiring spirits as an advertisement. Morell Mackenzie's prolonged absence from London, when he was in attendance at the sick-bed of the late Emperor Frederick, was however a windfall to Browne, who got the largest share in the spoils for which all the smaller fry of laryngology were scrambling. Browne's additions to the sum of knowledge concerning diseases of the throat, nose and ear, are not of much importance either in quantity or quality. His books, however, containing as they do the record of a large experience, are of considerable value from the clinical standpoint. He illustrated them himself with great artistic skill. Indeed I have always thought that his true vocation was art. He was from the age of eighteen a constant exhibitor at various art galleries and his sketches have sometimes been mistaken for Turner's even by experts.

It is remarkable that a man with such gifts should have been so little honored by his own profession. For this doubtless he was himself chiefly to blame; what Dr. Johnson said of the elder Sheridan—that he got on very well till his character overtook him—might be applied to Lennox Browne. But he was unfortunate in the circumstances of his early life. He began his career when specialism of any kind stank in the nostrils of the profession, and when laryngology as the youngest of an evil brood was regarded with special abhorrence. It was this attitude of the medical Pharisees, much more than any misdeeds of his own, that made an Ishmael of Morell Mackenzie; while on Lennox Browne, a man of coarser moral fiber, its effect was to harden him into indifference to public opinion. Even now that laryngology has taken its place among the recognized departments of medical practice something of the original taint remains, and its adepts might say, with Hamlet, that virtue cannot so inoculate their old stock that they shall relish it.

Lennox Browne's worst misfortune, from the professional point of view, was that he was the son of his father. He was the son of Isaac Baker Brown, one of the pioneers of ovariotomy in this country, and a really first rate operator, combining boldness with judgment. His first two or three cases were unsuccessful, and one of his colleagues at St. Mary's Hospital, a worthy man-midwife, whose name is now forgotten, threatened that if another death occurred from the same cause he would insist on a coroner's inquest being held. Baker Brown nevertheless persevered, and he would probably have overshadowed Spencer Wells, who, as an operator, was distinctly his inferior. At the height of his success, however, he became the victim of what can only be called an obsession which finally wrecked his career. Becoming persuaded that the clitoris was, so to speak, the storm-center in hysteria, he came to the conclusion, logical enough in itself, that the removal of the peccant part would cure the disease. So far his theory was no worse than many others by which it has been sought to explain the genesis of that mysterious affection; and the success of the operation seemed to him, as is always the case, to prove the truth of the theory. Then came cases of failure, with complaints from disappointed patients and threats from husbands who considered themselves injured. But the surgeon became more and more infatuated with his idea till at last, as I have been told by men who were in a position to know the facts, there was engendered in him an irresistible impulse to excise the clitoris of every woman who came to him. The matter became a scandal and was brought before the Obstetrical Society which expelled Baker Brown. The feeling against him was very high, but fuller knowledge and consideration of all the circumstances have made some of those who were foremost in denouncing him, more than doubtful of the justice meted out to him. The fact remains—and it should be a warning to zealots for what they think the honor of the profession—that Baker Brown was ruined and died in a mean lodging in Osnaburgh street. Lennox Browne, whose real name was Isaac Baker Brown, thought it expedient to change his name. But to his credit be it said, he did not abandon his father in the evil days on which he had fallen. Out of the scanty earnings of a professional beginner he kept his father from starvation and did what he could to lighten the dark shadows which surrounded his death-bed. For this, I think, much should be forgiven to Lennox Browne.

The mention of Osnaburgh street recalls a very different man, Sir William Jenner, who in that squalid quarter commenced his professional career. There he kept a "doctor's shop," and held a position in society which, as I once heard him tell a large audience of medical students, the humblest of the humble among them would despise. A good story, which to me, at any rate, is new, is told in the "Random Reminiscences" of Charles H. Brookfield, just published. Brookfield is the son of the Mrs. Brookfield to whom so much of Thackeray's correspondence is addressed. He was formerly on the stage where he did not rise to fame. But he has a great reputation in Clubland as a *raconteur.* He relates that on meeting Sir William Jenner by chance in a railway carriage the great physician remembered all the symptoms of the Brookfield family for several generations. Jenner told him in his student days he once went to the Haymarket, not so much to see the play, as to see Queen Victoria and Prince Albert, who were to visit the theater. There was a big crowd and a long wait. "When the doors were opened," says Sir William, "I heard a tearing sound, and I discovered that my coat had been torn in two from the tails to the collar. I hailed a coach and drove home in high dudgeon, and I exclaimed to myself, 'I'm d—d if I'll ever go and see the Queen again!'" One can easily fancy how Jenner's sharp little eyes twinkled as he told this story on the way back from one of his periodical visits to Royalty.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

GUMMATOUS CELLULITIS SIMULATING A MALIGNANT TUMOR OF THE PELVIS IN AN HEREDITARY SYPHILITIC—CAUSES OF DEATH AMONG THE VICTIMS OF THE SECOND ERUPTION OF MONT PELEE—PROSTATECTOMY—PNEUMOCOCCIC THYROIDITIS IN A VICTIM OF BASEDOW'S DISEASE—WORD-DEAFNESS DURING THE COURSE OF A GENERAL PARALYSIS—RETAINED CHLORIDES OF THE URINE—THE UTILITY OF RHYTHMICAL TRACTION ON THE TONGUE.

THE October meetings of the scientific societies in France and especially in Paris were very instructive. A number of vexed questions were carefully discussed as follows:

A. FOURNIER, at the Academy of Medicine, Oct. 21, 1902, read a paper on Gummatous Cellulitis Simulating a Malignant Tumor of the Pelvis in an Hereditary Syphilitic. He was called last December to see a sick man, thirty-four years old, who suffered in a vague manner in the pelvis and from symptoms of interference with the bladder and rectum. Abdominal palpation and rectal touch revealed in an exact manner the existence of an infiltration resembling woody carpeting, as it were, throughout the entire pelvic cavity, and having many of the features of syphilitic disease. In no direction could any enlargement of the lymphatic lobes be discovered, neither could he find any of the stigmata of syphilis. It is worthy of note that while this man had had 15 brothers and sisters, 12 of them died, and most of these in infancy. Moreover, among the survivors, there was one who presented at the base of the eye undeniable signs of congenital syphilis. On account of these findings he gave to the patient an energetic syphilitic treatment, consisting of injections of benzoate of mercury, 0.02 grams, and ingestions of iodide of potash, 4 to 6 grams. The treatment had hardly been instituted two weeks before distinct improvement appeared. Ten days after this there was no doubt whatever but that this pelvic exudate was undergoing resolution, and two months after the beginning of the treatment there was not the slightest sign of it. In a parallel degree his general condition improved in a most happy manner. He gained eight kilograms in weight and was relieved of all his old troubles with the bladder and rectum, and considered himself cured and states that he is at the present time in this condition. There is therefore no doubt that this lesion was a large gumma in the cellular tissue of the small pelvis, which was the product not of an acquired but of an hereditary syphilis, which apparently manifested itself late, namely, at the age of thirty-four, and which was not preceded by any other symptom of this disease. Another interesting point deserving attention consists in this: That in this patient, as in his brother, the hereditary syphilis, with the exception of the signs within the eye in the latter, did not manifest itself by any appreciable stigma. This is the more surprising when one remembers the very great mortality in infancy among the other members of this family. This alone made it likely that there was syphilis in the children. Aside from chronic lead-poisoning and the chronic poisoning from nicotine among those who work in tobacco, syphilis is of all maladies, including tuberculosis and alcoholism, the one which causes abortions and death in infancy most repeatedly.

Kermorgant read a paper concerning the Causes of Death Among the Victims of the Second Eruption of Mont Pelee in Martinique. During the night of August 30 or 31 a new eruption broke out from Mont Pelee which devastated the communities of Mont-Rouge and Ajapa-Ponillioa. The number of dead known in this second catastrophe was 625. Moreover, the physicians were able to find 70 persons killed directly by burns of the first, second or third degree. All of the cadavers recovered, excepting one, were divested of their clothing, just as after the first eruption. Beside this class of cases, burned entirely, corpses which showed not the slightest trace of burn were easily found. Moreover, there were persons who were very close to the path of the disaster who were stricken with light oppression, but otherwise able to leave without injury. From these three catagories it is possible to suppose that the storm-cloud was strongly charged with electricity, which might explain certain phenomena presenting close analogies with lightning. For example, the case of a mother whose ear was slightly burned by it, while the infant in her arms was horribly burned. Moreover, a short time after the eruption, a strong odor of ozone was perceived in Fort-de-France. It is therefore possible to conclude that in addition to the deaths occurring from suffocating gases or from burning cinders or from a temperature high enough to melt glass, there were many which were analogous to death by electricity.

Legen, at the Society of Surgery, Oct. 30, 1902, read a paper on Prostatectomy, suggested by the observations offered at the last meeting on this operation. The speaker stated that he had done the operation 12 times without any technical difficulty. In two of his patients the rectum was opened, but he sutured the wound and no inconvenience resulted. As to the urethral wound, he found the rule to be that it cicatrized in two or three weeks. He is not a partisan of morcellation of the prostate. Among his 12 operations he had one death, in a patient seventy-two years old, already suffering from urinary cachexia, chronic and extremely advanced. So far as the functional results are concerned, they were very satisfactory in most of his cases. To appreciate these at their correct values, it is necessary not to forget the inefficiency of all other surgical measures which so far have been proposed against hypertrophy of the prostate. From the point of indications for prostatectomy one must always consider prostatic dysuria as sufficient to render the operation justifiable, although this may be followed by a certain amount of incontinence. Prostatectomy is not indicated in his opinion excepting in those cases which have retention, complete in degree, caused by a very large gland. When, however, the degree of hypertrophy is moderate, a different intervention should be tried. If there is stone in the bladder, complicated by hypertrophy, then the operation should be done.

Le Gendre, at the Medical Society of the Hospitals, Oct. 17, 1902, described an observation of a woman twenty-seven years old, afflicted with an exophthalmic goiter, who was seized 48 hours after defervescence of a pneumonia at the apex of the lung with great pain, enlargement, edema at the level of the thyroid gland. The application of warm or hot compresses at this region terminated the inflammation. What gives interest to this case is the number of records of thyroiditis following pneumonia ending in suppuration. The reason why the germs of pneumonia should localize themselves in this gland probably lies in the fact that it had already been the seat of profound alterations.

Joffroy described an autopsy on a general paralytic, who during life had shown word-deafness, and whose brain presented the lesion of sclerosis scattered over the surface of the cortex, as is the rule in these patients. They were most prominent, however, in the region of the temporal lobe, and especially in the lower part of the first convolution of this lobe.

Milliere, at the Society of Biology, Oct. 18, 1902, communicated the results of experiments which proved that during the course of a certain number of diseases, such as acute osteomyelitis, peritonitis, appendicitis, renal colic, uncontrollable vomiting in pregnancy, etc., there is almost always present a notable retention of urinary chlorides. There is, therefore, a great indication for making these urinary tests prior to undertaking a surgical operation.

Laborde, at the Academy of Medicine, Oct. 14, 1902, related a certain number of facts which demonstrated that, contrary to an opinion recently formulated, rhythmic contractions of the tongue play a very important part in cases of poisoning by carbon oxide gas. The speaker insisted particularly upon the influence of organic mechanical reflexes upon the respiratory center in order to obtain a successful result. If one confines himself, for example, to the inhalations of oxygen in a case of asphyxia, without having recourse at the same time to these rhythmical tractions of the tongue or to artificial respiration, failure is likely to follow. It is indispensable to renew from time to time these tractions on the tongue upon poisoning cases as well as upon those in which the asphyxia is mechanical, as in drowning or strangulation. It is also necessary to direct one's efforts against suspension of the heart and in addition, to combat the effects of the poisoning upon the organism. What is true of coal gas is also true of other gases, such as illuminating gas, and those that are found in excavations.

BYWAYS OF MEDICAL LITERATURE. XI.

PRONUNCIATION AND ORIGIN OF VIRCHOW'S NAME.

Since Virchow's death attracted general attention to the immense work that he accomplished in so many lines, the physicians of the world have been asked over and over again for the pronunciation of his name. At medical meetings it is quite the custom to have three or four successive speakers who mention the distinguished father of cellular pathology pronounce his name very differently. There is more difference of opinion with regard to it than with regard to almost anything else. Not long ago it is said that a German scientist traveling in France was complimented on the great work that 'Workcow' (*sic*) had done for modern science and he fell not a little in the estimation of his French friends when he said that he had never heard of the man. It was only after some reflection that he realized who was intended.

It is not alone for foreigners, however, but even for Germans themselves that Virchow's name has proved difficult of pronunciation. As a matter of fact the name is originally derived from one of the Slav languages. The family comes from Pomerania where there is a village and lake of the name and the name has existed there at least since the beginning of the sixth century, when invading Slavs settled in the Province. The name is not pronounced, however, entirely according to Slav methods, but has been modified somewhat by centuries of German association.

A rather amusing story is told of the pronunciation of his name at the banquet in honor of Virchow's eightieth birthday last year. Lord Lister in his address to the distinguished medical patriarch and guest of the evening called him Wirtchow. A well-known Russian colleague called him Wirkoff. Signor Bacceli, the Italian Senator and medical professor addressed him as Wirtscho. What the Frenchmen called him it would be next to impossible to reproduce in English. When Professor Harnack, the well-known authority on biblical exegesis addressed him as Professor Fircho, the 'f' being pronounced soft as in 'fair,' the 'ch' like 'k' but with the German guttural, Virchow smiled very pleasantly and turning to the colleague who was nearest to him at table said that it was the first time he ever remembered hearing his name properly pronounced at a public function. Those who have made mistakes in the past may feel that they were not alone.

To those who are interesting in the animosities of races in central Europe it may be a matter of no little surprise to find that this representative scientist of the nineteenth century, whom all the world is accustomed to consider as a typical exponent of German methods and German thought is really an old-time descendant of the Slavs with whom the world generally is unaccustomed to associate the idea of great progress in science. Virchow himself while much more liberal-minded than Mommsen and some other of his great contemporaries had very little sympathy with the so-called Slavophile movement that has recently disturbed the German-speaking countries.

MANKIND IN THE MAKING.—ALCOHOLISM.

Some quotations from the articles by H. G. Wells, that are appearing simultaneously in a prominent English magazine and in the Cosmopolitan in this country, will show how many problems connected with medical biology can be treated in a way to be of general interest and how many are the thinkers who, at the present moment, are engaged in such problems. Mr. Wells takes occasion to say that there are many medical men who like Mr. Archdall Reid broaden the narrowness incident to daily practice by attention to these great issues. Dr. Reid is the author of Alcoholism, a book in which he states that he considers the drink craving a simple specific inheritance. Races which have been in possession of alcoholic drinks the longest, are the least drunken and this he ascribes to the elimination of all those whose drink craving is too strong for them. Nations unused to alcoholic drinks are most terribly ravaged at its first coming to them. They may even be destroyed by it, in precisely the same way that new diseases, coming to peoples unused to them, are far more malignant than among peoples who have suffered from generation after generation. Such instances as the terrible ravages of measles in Polynesia and the ruin worked by firewater among the Red Indians, Dr. Reid quotes abundantly, to prove his thesis. He infers from this that interferences with the sale of drink to a people, may in the long run do more harm than good, by preserving people who would otherwise be eliminated, permitting them to multiply and so, generation by generation, lowering the resisting power of their race. He proposes to divert temperance legislation from the persecution of drink makers and sellers to such remedies as the seclusion of irredeemable drunkards, their punishment if they incur parentage and the extension of the causes of divorce to include this ugly and disastrous habit.

Mr. Wells is not in accord with Dr. Reid's theory. He believes that many causes and many temperaments go to the making of drunkards. He considers that the ugly superstition of hereditary craving may act with absolutely paralyzing effect upon some credulous youngster, struggling in the grip of a developing habit. "It's no good trying"—helps the young man down hill, not up it. There is no denying that those nations that have had fermented drinks longest are the soberest, but the nations which have had fermented drinks longest are also those that have been civilized the longest. The passage of a people from a condition of agricultural dispersal, to a more organized civilization means a very extreme change in the conditions of survival, of which the increasing intensity of temptation to alcoholic excess, is only one aspect. Even if Dr. Reid's conception of immunity production be conceded it is quite conceivable that the world could purchase certain sorts of immunity too dearly.

The manner in which the various aspects of these interesting subjects is discussed, shows what a hold biological and medical terminology has secured in the expression of ideas referring to anthropological subjects generally. Physicians are probably in a better position to help on by careful observation the ultimate solution of these important questions than any other single class of men. It is observation rather than theory that is needed. Medical men owe it to themselves and their profession that their frequent valuable opportunities for observation in these important subjects shall not be allowed to pass without the collection of exact information that will be of great utility when definite conclusions on these subjects are to be reached.

HÄCKEL'S PHILOSOPHY OF LIFE.

Life and its problems, the question of its origin, its progress, the relation of vital energy to other forms of energy have always had a special interest for medical men. Most of them follow more or less closely the progress of scientific thought in this matter and Häckel's Riddle of the Universe, as by some rather inexplicable transformation the World Riddles of the German became in English dress, attracted no little attention when published a year ago.

It is often thought by those not in touch with German biological science that Häckel's position with regard to life and his materialistic attitude towards vital energy and the origin of life are characteristic of modern scientific thought in Germany. How untrue such an opinion is may be gathered from the fact that Häckel himself was fond of saying that such men as Virchow, Helmholtz and Du Bois Raymond were either too timorous to express their opinions or advancing years had made them too conservative to express their real convictions of agreement with him. As a matter of fact Häckel was almost alone in the radical position of monism and has lost rather than gained adherents in recent years.

Häckel himself has lost prestige among German scientists because his later original work has not fulfilled tne promise of his early years. He has been a publicist not an investigator.

The opinion of an American thinker in similar lines, Prof. Frank Thilly, of the University of Missouri, was recently expressed as follows in a formal address:

"'Häckel's World Riddles' proves conclusively that no man can neglect philosophy with impunity, and justifies the existence of a discipline like philosophy. Men will philosophize, even natural scientists—that is plain—and so long as they continue to do that it is essential that they do it well. And they cannot do it well without being trained to the work. It is just as impossible for a man to ignore the history of philosophy and to attempt to originate a system without regard to the race's experiences in system-building stretching over a period of 2,500 years or more, as it is for him to accomplish anything in physics or biology without profiting by the intellectual labors of the past and present in these fields. The man who tries to construct a system of philosophy in absolute independence of the work of his predecessors cannot hope to rise very far beyond the crude theories of the beginning of civilization. Häckel, of course, is not wholly unacquainted with the history of philosophy, but his utterances usually make the impression on one that he has never done any serious work in this line, that his knowledge is largely based on hearsay, as it were. He certainly seems to be ignorant of modern psychology, otherwise he could not speak of it deprecatingly as he does. His criticisms may perhaps fit the psychology of 50 or 100 years ago; they surely are not apt to-day. Here Häckel appears to be fighting windmills of his own making. It is also plain that he is unfamiliar with modern epistemology and that a closer acquaintance with that subject would have saved him from falling into error and contradiction."

FOUNDATIONS AND ADVANCE IN SCIENCE.

We are evidently just entering upon a period when foundations for research work in all sciences are to be frequent. This might be presumed to mean a great immediate advance in science and a series of original observations of eventually great practical importance. As a matter of fact, however, experience has shown that really great discoveries usually come from the most unexpected quarters. It is the man rather than the opportunity, urgent necessity rather than supposedly fertile leisure that gives progress in science. "The rifle does not make the marksman nor the laboratory the investigator," a recent acute observer in Germany said. One of our greatest American scientists, Prof. David Starr Jordan, president of Leland Stanford University, called attention not long ago to the danger there is of our being deluged by a flood of sciolism rather than true science. What he has to say on the subject is evidently the result of his own experience and it is so well said that it would deserve a place in the commonplace book of every one who has an interest in scientific investigations, and who deprecates the rushing into print with half-baked science, unfortunately so common at the present time. Apparatus is necessary in physical science. Collections and equipment are really the outgrowth of the men that use them. You cannot order them in advance. Prof. Häckel once said bitterly that the results of research in the great laboratories were in inverse proportion to the perfection of their appliances. An investigation may be lost in multiplicity of details or in elaboration of preparation. Some men will spend years in getting a microscope or a microtome just right and then never use it. It is said that the entire outfit of Joseph Leidy, one of the greatest of our microscopists, cost just $75. It was the man and not the equipment that made his investigations luminous.

Publication is necessary, but it would be the greatest of mistakes to measure a university by the number of pages printed by its members. Much of the so-called research even in Germany is unworthy of the name of science. Its subject-matter is not extension of human experience, but an addition to human pedantry. To count the twists and turns of literary eccentricity may have no more intellectual significance than to count the dead leaves in the forest. Statistical work is justified not by the labor it requires, but by the laws it unveils. Elaboration of method may conceal the dearth of purpose. Moreover, it is easier to string the web of plausibility than to recover the lost clue of truth.

Of a thousand doctors' theses each year, scarcely a dozen contain a real addition to knowledge. In too many cases a piece of research is simply a bid for notice. American universities are always on the watch for men who can do something as it should be done. Work is often done solely to arrest the attention of the university authorities. A professorship once gained, nothing more is heard of research. The love of novelty with the itch for writing often passes for the power of original research. The fanaticism for veracity has nothing in common with versatile writing or paradoxical cleverness. It took Darwin 25 years of the severest work before he could get his own leave to print his conclusions. Other writers put forth sweeping generalizations as rapidly as their typewriters can take them from dictation. In certain works which have arrested popular attention, the investigations must have gone on at the highest speed attainable by the pen of the gifted author. Such work justifies Fechner's sarcastic phrase, "cuckoo's eggs laid in the nest of science."

The work of science is addressed to science, no matter if half a dozen generations pass before another investigator takes up the thread. The science of the newspapers is of quite another type, and so is much of the science of famous men from whom newspaper science derives its inspiration.

PAUL KRÜGER'S PRIMITIVE SURGERY.

How Oom Paul Lost His Thumb.—A Freshly Killed Goat as a Remedy for Gangrene.

The Memoirs of Paul Krüger which The Century Co. will publish Nov. 26, contains some very good stories of Mr. Krüger's early days in South Africa. The medical profession will appreciate this incident, which we are permitted to copy from advance sheets of the book.

In the year 1845, my two brothers Douw and Theunis, Douw's wife, my own wife and I were making a halt near Secucuni's town, not far from the place where the Spekboom River joins the Steenpoort River, in the north of the Transvaal. We outspanned, and I went, in the course of the day, on the veldt to shoot some game. I was mounted, and carried my old big four-pounder. After about an hour's ride, I came across a rhinoceros and shot at it. But I only succeeded in wounding the animal, and it fled into the wood. I dismounted quickly, ready to shoot again, but moved only a few steps away from my horse, lest the rhinoceros should turn to attack me, in which case it would be necessary to remount at once. I succeeded in getting a second shot; but, at that very moment, my rifle exploded just where I held it with my left hand, and my left thumb, the lock and the ramrod lay before me on the ground and the barrel of the gun behind me. I had no time to think, for the furious animal was almost upon me; so I jumped on my horse and galloped away as fast as I could, with the rhinoceros in fierce pursuit, until we came to the ford of a little spruit when my pursuer came to the ground and so allowed me to ride quietly in the direction of our wagons. During the next day, our people, guided by the track of my horse, went to the spot, and there they found the rhinoceros still alive, and, following the trail of blood, discovered the remains of the rifle and my thumb.

My hand was in a horrible state. The great veins were torn asunder and the muscles lay exposed. The flesh was hanging in strips. I bled like a slaughtered calf. I had succeeded in tying a large pocket-handkerchief round the wound while riding, to save the horse from being splashed with blood. When I got to the wagons, my wife and sister-in-law were sitting by the fire, and I went up to them laughing so as not to frighten them. My sister-in-law pointed to my hand, which looked like a great piece of raw meat, the handkerchief being saturated with blood.

"Look what fat game brother Paul has been shooting!" she said.

I called out to my wife to go to the wagon and fetch some turpentine, as I had hurt my hand. Then I asked my sister-in-law to take off my bandolier, and she saw that my hand was torn and noticed how white I was, for I had hardly any blood left in my body. I kept on renewing the turpentine bandages, for turpentine is a good remedy to "burn the veins up," as the Boers say, and thus to stop the bleeding. I sent my youngest brother—he was still really young at the time—to borrow as much turpentine as he could get from the nearest farm, which was about half an hour's ride away. Herman Potgieter, who was afterwards so cruelly murdered by the Kaffirs, came over with his brother. The former got into the wagon and, when he saw the wound, cried out:

"That hand will never heal; it is an awful wound!"

He had to get down again as quickly as possible, for he was nigh fainting. But his brother said, possibly to comfort me:

"Nonsense; I have seen worse wounds than that: get plenty of turpentine."

We inspanned and drove to the farm. Every one there advised me to send for a doctor and have the hand amputated; but I positively refused to allow myself to be still further mutilated of my own free will. The two joints of what was once my thumb had gone, but it appeared that it would still be necessary to remove a piece of bone. I took my knife, intending to perform the operation, but they took it away from me. I got hold of another a little later and cut across the ball of the thumb, removing as much as was necessary. The worst bleeding was over, but the operation was a very painful one. I had no means by me of deadening the pain, so I tried to persuade myself that the hand on which I was performing this surgical operation belonged to somebody else.

The wound healed very slowly. The women sprinkled finely-powdered sugar on it, and, from time to time, I had to remove the dead flesh with my pocket-knife; but gangrene set in after all. Different remedies were employed, but all seemed useless, for the black marks rose as far as the shoulder. Then they killed a goat, took out the stomach and cut it open. I put my hand into it while it was still warm. This Boer remedy succeeded, for when it came to the turn of the second goat, my hand was already easier and the danger much less. The wound took over six months to heal, and, before it was quite cured, I was out hunting again.

I account for the healing power of this remedy by the fact that the goats usually graze near the Spekboom River, where all sorts of herbs grow in abundance.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Regular Monthly Meeting, held Saturday, October 25, 1902.

The President, Dr. William B. Coley, in the Chair.

The scientific business of the evening consisted of papers by Dr. Edward G. Bryant "On Some Features of Diphtheria" and by Dr. Charles Schramm "On Psychosis Following Typhoid Fever."

Nasal Diphtheria.—Dr. Edward G. Bryant said that nasal diphtheria is prone to be missed in diagnosis, or at least its significance is not appreciated. He detailed some cases in which good prognoses had been given and in which there had been for the first few days of the illness no question of diphtheria, yet they proved to be the affection in very severe form. During diphtheria epidemics discharges from the nostrils should always be the subject of suspicion, especially if they are accompanied by considerable prostration and by more fever than can be accounted for by the catarrhal symptoms. In nasal diphtheria large doses of serum, up to 3,000 units, are needed, and even then the prognosis must be given with care. This constitutes one of the most serious forms of diphtheria.

Cast of Trachea.—In one of Dr. Bryant's cases, there was great tendency to stenosis of the larynx and difficulty of breathing and an intubation tube was inserted. Autoextubation took place and some shreds of membrane were coughed up. When the tube was reinserted, it became blocked by membranes pushed before it and had to be removed. It was found clogged with membrane and in the paroxysm of coughing that followed its removal a cast of the trachea was coughed up. A few days later another and more complete cast came away. The patient recovered. These cases are apt to be especially fatal, however.

It is extremely important in Dr. Bryant's opinion not to give a favorable prognosis early in a diphtheria case, for there is no knowing what serious symptoms may develop. As an illustration of this he detailed the case of a child of seven, who had been ill for two days and a favorable prognosis had been given. There was some congestion of the throat and edema of the faucial tissues and a considerable amount of grey membrane, but there was a suspicious snuffling of the nose. On the third day, an offensive nasal discharge began. Three thousand units of antitoxin were employed and nasal irrigations from a height of three feet were practised. Double cervical adenitis developed and on the fourth day symptoms of sepsis became evident. The nasal irrigations had to be stopped because of bleeding from the nostrils. The patient's color was very poor and vomiting set in. The stools, however, remained normal. There was some improvement for a time and, on the thirteenth day the temperature rose to 105 degrees and albumin with hyaline and granular casts were found in the urine. The heart acted very poorly at this time. The temperature declined by lysis and everything seemed to point to eventual recovery.

Another rise in temperature showed the presence of a further complication and bronchopneumonia was diagnosed. Accompanying this there was considerable tympanites and tenderness of the abdomen. One consultant declared that this was due to peritonitis. He suggested as the origin of the peritonitis appendicitis and advised operation. Another consultant thought it was due to thrombosis of the veins of the mesentery and advised against operative interference. Dr. Bryant himself, because of a recent previous experience quite similar in character, was of the opinion that the abdominal symptoms were dependent upon diaphragmatic pleurisy and its paralyzing effect upon the diaphragm.

At the autopsy the peritoneum was found normal and the appendix without any pathological condition. The veins of the mesentery were not affected. A quantity of purulent fluid with gas was found in both pleural cavities and a considerable amount of turbid fluid was removed from the pericardium. The tympanites and apparent peritonitic symptoms were due then to paralysis of the diaphragm and consequent failure of the peristaltic movements of the intestines to produce evacuations of gas as in health. Considerable involvement of both lungs was found and the bronchopneumonia seemed due to mixed infection.

Chronic Intubations.—Dr. Bryant gave the details of a series of cases in which intubation had to be practised for many months because the patient complained of difficulty of breathing as soon as the tube was removed. In these cases the intubation tube may have to be left in place for many months, or even for several years. In some discharged cases that have been under Dr. Bryant's observation, tubes were in for sixteen months, for six months, and five and three months respectively. In cases that are still under his observation tubes have been in for seventeen, sixteen and fourteen months and three cases for over six months, and it is as yet impossible for the patients to breathe when the tube is removed.

Causes of Necessity for Intubation.—The lesions that require the persistence of intubation are not due to a faulty introduction of the tube originally, but to a hypertrophy of subglottic tissue. Children who have to wear the tube constantly are cheerful and in good health. They play freely and are often in excellent spirits and perfectly hearty. They eat without difficulty, laugh and cough and apparently are oblivious to the presence of the tube. When by any chance the tube is coughed up, a serious set of symptoms develop. The dyspnea may not occur at once, for little patients may sometimes bring the tube to the doctor themselves to have it reintroduced. If the doctor is present in the ward when the accident occurs usually there is very little difficulty, patients do not get excited, but if there be any delay in summoning him, they become frantic.

Treatment of Chronic Intubation.—Dr. Bryant has tried all sorts of tubes in order to prevent autoextubation, except the corrugated ones, and he considers that Roger's advice to increase the size of the tube every six weeks, always using one a little larger than the age would seem to demand and inserting a tube that is as large as can be forced in by an expert intubator seems to be the most hopeful procedure. Dr. F. Deuel's suggestion to fasten the tube in place by means of a retaining clamp or button will probably prove the solution of the problem. At times persistence in replacing the tube will secure its retention for the time being at least. In a recent case the tube was coughed up and replaced three times in 15 minutes and then after careful cleansing of the pharynx and larynx and the administration of a twelfth of a grain of morphine, it was replaced once more and stayed in place.

Stenosis of Larynx.—Dr. Charles R. L. Putnam said that he has had under observation a child in whom after two operations for supposed benignant processes in the larynx, the larynx was extirpated because the growth was found to be malignant. Tracheotomy was done and complete stenosis of the larynx occurred as a consequence of cicatricial contraction of the tissues. After tracheotomy a small sound was forced through the larynx and this was gradually dilated until a French 36 sound could be passed and a tube was inserted larger and a little bit longer than would be demanded by the age of the patient, so as to come down beyond the tracheotomy wound. The tube was held in place by stitches. After several months it was removed but the stenosis recurred. He had been supposedly wearing a tube ever since and was summoned for examination by several physicians this morning. The most careful examination failed to show any signs of the tube. After a while the boy confessed that about a month ago, while in bathing he coughed up the tube, but said nothing about it and has felt no inconvenience since. It is evident then that at times these stenotic conditions become less liable to contraction than they were at the beginning.

Cicatricial Stenosis After Tracheotomy.—Dr. Arthur B. Deuel said that in three cases that had been under his observation, a cicatricial band had formed in the larynx above the tracheotomy wound. In these cases gradual dilatation of the trachea and larynx had to be performed, usually by retrograde methods and then the air passages are kept open by means of a tube. Such patients should not be kept in the family until they are brought to a condition where they can dispense with their tubes. They should be kept under observation and, if possible, where the physician can see them in a few minutes after extubation, if this should happen by accident. In two of his cases, Dr. Deuel has succeeded in keeping the laryngeal tubes in position by clamps applied through the skin wounds. Two of these patients now have squeaking voices though beforehand they were utterly unable to talk because of complete stenosis below the larynx.

Dr. Deuel does not think that the formation of the cicatricial band above the tracheotomy wound is due to any defect of technic during the operation, nor of treatment afterward, but to a hypertrophy of subglottic tissue. Owing to the irritation of the changed conditions of respiration in certain subjects this seems especially liable to occur. The consequence is a complete closure of the trachea. With regard to the cases of frequent extubation, Dr. Deuel considers that the recurrence of this accident makes the tissues more sensitive and so does not allow them to reach a normal condition. He thinks that he has invented a method by which the tube can be kept in place, especially in cases that are liable to have frequent extubations following one another, within a few hours.

Postfebrile Psychosis.—Dr. Charles Schramm said that mental disturbance following typhoid fever, is not frequent and a typical case seems to deserve reporting in detail. The patient was a cheerful robust boy of fifteen years, with no direct family heredity of importance and no history of convulsions in his infancy. He had suffered from nearly all the contagious diseases of childhood and yet was not a delicate child. He succeeded well at school and presented no mental symptoms. There was a story of a rather violent temper and occasionally he flung things at servants. He was a good sleeper. One paternal uncle is an imbecile, and another is not qualified to manage his own business. A maternal uncle died of tuberculosis.

The typhoid fever began with a very high fever reaching 106° F., followed by vomiting and delirium. After a while, under the influence of hydropathic treatment, the patient became more quiet and the mental condition became dreamy with stuporous periods lasting four or five hours, though not so deep that the patient could not be aroused. As the fever progressed delirium lasted most of the night. During the day there was a tendency to profanity. The patient called his nurse "Mitchell" with a pause and special emphasis on the last syllable Mitch-*hell* and he claimed that she was trying to poison him. He then began to talk with persons who were not in the room and became very abusive.

He tore his bed clothing and nightshirt and the clothing of those who came near him. He called his mother to him one day and then struck her very severely because she would not promise to keep others from poisoning him. During most of the day he sang and whistled. This excited condition lasted for a month after convalescence set in. In a certain way the condition resembled the excited stage of delirium tremens, but an excessive use of stimulants could be excluded from the case.

These mental disturbances following typhoid are more frequent than have been thought. Usually there is some family heredity and the typhoid toxemia seems to be the exciting cause. Some changes have been found in the brain cells. A secondary cause of mental disturbance during typhoid fever is the weak heart that results from the presence of toxins in the circulation. Kräpelin, an excellent authority in mental diseases, says that the psychosis developing after typhoid fever may occasionally remain as a permanent condition.

Treatment.—For the excited nervous condition warm baths at about 98° F. were found to be the most useful remedy. These are stimulating to the skin and kidneys and bring rest. No hypnotics were used during this case and as a rule they are contraindicated. During the excited stage there should be plenty of nursing help so as to control the patient properly without danger to himself or the attendants. Such mechanical aids as a straight-jacket, or fastenings for the feet are then not needed. It is much better to control patients in this way than by mechanical means. Nutrition is an important matter, especially after the convalescence from the fever sets in and strong soups, junket and egg and sherry should be used freely, once during convalescence in this case, resort was had to forced feeding. Heredity is the most important element in the case and it is curious to note how the tendency latent until the fever occurred is lighted up by the strain put upon the system by the infection.

Urinary Segregators.—Dr. N. B. Potter presented two instruments meant to facilitate the collection of urine from both kidneys separately in order to secure diagnostic evidence as to the condition of each kidney. The instruments are the invention, one of Louis, the other of Cathelin, French genito-urinary specialists. One of the instruments secures its object of keeping the urine from the two kidneys separate by carrying a diaphragm which is expanded by means of a steel spring after the double catheter is inserted into the bladder. The other secures the same object by means of a stretched piece of rubber, covering the arc of a circle which is made taut after the catheter is introduced. The instruments promise to be of some help in cases where it is difficult to secure ureteral catheterization.

Dr. Guiteras in discussing the instruments said that the Cathelin segregator is much better than either the Harris or Downs instrument, but none of these methods of collecting the urine presents anything like the assurance that is obtained from catheterization of the ureters whenever that is possible.

Dr. Cabot said that he had had some experience with the Harris instrument, but it had been rather disappointing. In cases where there are new growths of the bladder, or where there is some bladder condition such instruments only confirm suspicion as to the existence of kidney disease, when as a matter of fact there may be no pathological lesion of the kidney at all. Dr. Cabot gave the details of one case in which a fibrous growth in the bladder had caused a serious misapprehension as to the existence of disease of the kidney. Unless the collection of the urine from the separate kidneys can give absolute assurance no method will be of any use. It is when all other diagnostic methods have failed to give absolute certainty that the collection of the separate urine is expected to remove doubt. Any method then into which a large element of doubt enters is scarcely worth considering. These new French instruments seem to labor under this objection.

Anchoring of Kidney.—Dr. Guiteras demonstrated an improvement in the technic of anchoring the kidney. At the present time when either for floating kidney, or because of the hope of securing relief of symptoms from chronic nephritis the suturing of the kidney to the lumbar muscles has become of more importance, the question of how to secure firm adhesions of the kidney with least disturbance of that organ, is important. Usually the capsule is stripped from the kidney completely as far as the hilum. To many persons this has presented an element of risk, since the kidney loses the support of the fibrous capsule. Dr. Guiteras proposes to strip only the half of the kidney which lies against the abdominal wall, thus securing the benefit of strong adhesions without unnecessary removal of the protective fibrous capsule. Dr. Guiteras's method of introducing the stitches makes the position of the kidney very firm and enables the operator to draw it against the muscles of the back in such a way as to hold it absolutely in place.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, held at the New York Academy of Medicine, November 10, 1902.

The President, Andrew H. Smith, M.D., in the Chair.

The Treatment of Ordinary Forms of Loss of Hair.—The first paper of the evening, on this subject, was read by Dr. R. A. Sands. It seemed to him remarkable that in spite of the rapid rise in medical knowledge in modern times, the study of the hair in no wise participated in the advance, and the treatment of it is practically in the hands of those destitute of learning. As the field is therefore a new one, from a scientific point of view, there is naturally a considerable diversity of opinion, even in regard to the simplest problems to be met with. In this paper he proposed to give a résumé of his own experiences, based upon a careful study of over 2,000 cases. He first referred to several popular beliefs and then stated that a careful analysis fails to show that these alleged causes, namely, age, heredity, general physical condition, and mental work, produce loss of hair. An enormous percentage (92 per cent.) are suffering from a disease popularly known as dandruff. This term covers a variety of conditions, the knowledge of which is still very imperfect. The various forms of so-called dandruff, however, are undoubtedly due to microorganisms. In clinical experience striking examples of contagion are constantly met with, and three illustrative cases were cited.

No two cases are to be treated exactly alike. That which will work well for one patient will often completely fail in another. The following method of procedure has yielded excellent results: (1) Cleanse the scalp of all that will prevent or hinder the action of the germicide; (2) select a germicide suitable to the case; (3) apply the germicide in the form best adapted to the patient; (4) prevent re-infection; (5) stimulate the scalp, if this is indicated.

Almost any good soap will do for shampooing. For very dry hair a sodium iodide and sulphur soap, made by Stiefel, has given satisfactory results, while for oily hair ivory soap is prescribed. Tincture of green soap would be an admirable preparation if it were only made from good green soap. Personally, Dr. Sands has found it better to make his own green soap, as he can then depend upon its being unadulterated and of uniform strength. Usually at the beginning of treatment the scalp should be shampooed at least once a week. Of all the germicidal drugs recommended, resorcin easily heads the list. The addition of a little salicylic acid will often prevent the staining of the hair sometimes caused by it. Other useful remedies are salicylic acid, chloral hydrate, sulphurous acid, and mercuric chloride, all of which may be applied in lotion form. The liquid menstruum may vary from 25 per cent. of alcohol to pure alcohol, according to whether the scalp is oily or not. Castor oil or a little glycerin are sometimes added to the lotion. Pomades would often be of service, but it is difficult to get women to use them. If any of these drugs are prescribed in ointment form, the proportion prescribed should be considerably greater. In addition, prepared sulphur, tar, or one of the various forms of mercury can be employed. Quinine and tannin have yielded no results. Patients should always be warned of the possibility of re-infection, and instructed how to cleanse their hats, brushes, sofa pillows, etc. They should also be warned of the possibility of their brushes becoming infected through the domestics.

Stimulants.—Not until the disease is well under control should stimulating applications be employed. Too often the mistake is made of prescribing some irritant, like tincture of cantharides, when the disease is in an active state, with the result of exciting acute inflammation of the scalp. The stimulants which have yielded the best results are, spiritus formicarum (Ph.G.), tincture of nux vomica, turpentine, ammonia, camphor, acetic acid, and chloroform. Massage has given better results than any drug, and at times its effect in diminishing hair loss is magical.

Loss of Hair Following Fevers.—In many cases that he has seen of this, dandruff has been met with, and it is his belief that the hair falls out, not on account of the fever, but because of the combination of fever and dandruff. The practice of having the head shaved after a fever cannot be too strongly deprecated. Dr. Sands concluded with some remarks as to the care of the hair after the patient has recovered. An important point often overlooked is to shampoo the brush and comb at the same time the scalp is cleansed.

Causes of Loss of Hair.—Dr. George H. Fox said he disagreed with Dr. Sands in some points regarding etiology. The falling of the hair is ordinarily due, in his opinion, to three classes of causes: (1) Local disease, as eczema, for example. Dandruff is no doubt the cause in many instances. At the same time, thick hair is often found even when dandruff is present and where it continues for years. When there is disease of the scalp, baldness is likely to occur. (2) Weakness of the general system. The hair falls after fevers as the result of the enfeebled condition of the patient. Loss of hair is particularly liable to occur when the nervous system is affected. When there is health of mind and body we usually find a healthy scalp. When there is loss of hair it is the natural result of a definite cause. The scalp will take care of itself if the rest of the body is in good condition. (3) An innate tendency to falling of the hair. In the majority of cases the gray hair and baldness met with are no more evidences of disease than old age itself. The tendency is inherited, just as a stature of six feet, for instance, is inherited from one's ancestry. When there is such an innate tendency, baldness cannot be prevented.

Shampooing.—As to the frequency with which shampooing should be practised, it should be repeated just as often as is necessary to keep the scalp clean, whether this is three times a week or once a month.

Dandruff Not the Cause.—Dr. E. B. Bronson thought that in early alopecia there was usually a local condition which judicious treatment could remedy. Unless this were the case there would be very little hope in prescribing for any patient so affected. In his opinion it was incorrect to say that dandruff was the cause of loss of hair. Alopecia and dandruff were both due to the same cause, and the dandruff was simply the indication of a local tendency which is often inherited. These were the cases most commonly met with, but there were other varieties, such as alopecia pityrodes, in which he had no doubt that a parasite was present. Here antiparasitic remedies were decidedly indicated. In dry cases an ointment was usually called for, and it was his practise to employ a well-made cold cream containing 10 per cent. of sulphur. Sulphur is certainly an admirable remedy, first, because it is one of our best parasiticides, and, second, because it is one of the best cornifying agents. He had had good results from resorcin and also from the condensation product of tannin and formaldehyde (tannoform), which he employed in a five-per-cent. alcoholic solution. For cleansing he used green soap.

The Scalp and the General Health.—Dr. R. J. Devlin said he could not agree with Dr. Sands that loss of hair is not due to a weakness of the system. In the lower animals it is well known that the coat becomes materially affected when the health of the animal is depreciated. So, in the human subject there is an intimate relation between the condition of the hair and the general condition of the individual. The key to the situation is not seborrhea, but the progressive atrophy of the scalp that is undoubtedly the chief cause of the ordinary forms of loss of hair. There are undoubtedly many kinds of seborrhea, and some of them would seem to be of parasitic origin, but it would be a great mistake to form the idea that seborrhea is the only cause of the trouble in question. As to chronic progressive atrophy of the scalp, the most prominent cause, it is not known how to treat it successfully. If massage be used the hairs that are left may be rubbed away. As to remedies to be used in seborrhea, he would place them in a somewhat different order from that mentioned in the paper. First he would place the sulphur compounds, and he had great faith in the old-fashioned sulphur ointment, although it was very difficult to get patients to submit to its use. Salicylic acid might be added to relieve itching. Next he would place ammoniated mercury, and third, (although he considered it a poor third), resorcin.

The Prophylaxis of Appendicitis.—This was the subject of a paper by Dr. Henry Illoway. He holds constipation, an overloaded colon, to be the essential factor in the causation of appendicitis. Many more persons are constipated, he said, than really have an idea that they are so, and attacks of temporary constipation of longer or shorter duration are entirely overlooked or forgotten by the great majority of persons. As to the way in which constipation affects the appendix: (1) It enables fecal matter to pass into the appendix; (2) the fecal matter, being stagnant in it, may undergo liquefaction and permit of the development of bacteria capable of giving rise to an inflammatory process which may present all the aspects of an acute infection; (3) the formation of concretions may result. When feces become stagnant in the colon they have a tendency to become inspissated and hardened. Such inspissation of fecal matter occurs here more readily than elsewhere in the intestinal tract, owing to the greater immobility of the contained matter, the greater length of the absorbing surface, and the closer application of the latter to the contained matter. The findings of Lockwood as to the abundance of bacteria in some of the concretions are also thus readily explained, without recourse to the theory of a special bacterial invasion, for which no proof can be adduced. The greater exemption of females as compared with males is thus explained: (1) In women the pelvic cavity is much roomier than in man, and thus perhaps permits of greater distention of the cecum without the orifice of the appendix being forced open; (2) woman is more particular in her food and eats more at her home table, so that she is less liable to introduce decaying matter (which is likely to set up sharp putrefactive fermentation) into her digestive tract; (3) she is not given as much to the free use of alcoholic beverages, which of themselves make a predisposition to congestive processes in the abdominal organs, and particularly in the terminal parts of the intestinal tract.

Prevention.—The conclusion, therefore, is reached that if constipation is removed there will be no danger of appendicitis. By removing the constipation is not meant the giving of a purgative to provoke an evacuation to be followed only by a still more obstinately constipated state, but a restoration to the intestinal tract of its original and inherent vigor, so that it can empty itself spontaneously and with regularity. Although it would be somewhat difficult to demonstrate clinically the correctness of the view expressed, yet cases can be referred to in which, notwithstanding that a first and even a second attack of appendicitis has occurred, and although operative interference was advised by eminent surgeons, a cure has been effected by the relief of the patient's constipation. Three cases of this kind were cited by Dr. Illoway.

Constipation Not the Only Cause of Appendicitis.—Dr. Egbert Le Fevre related the cases of two nephews of his own, aged respectively twenty-one and twenty-three years. They were under daily supervision, all their functions were performed normally and regularly, and they were in admirable general condition, so that he had been somewhat mystified when each of them in turn developed appendicitis. It was a fact, however, that they were both attacked with the disease after violent muscular exertion. In the first of these cases a gangrenous condition of the appendix was found within 48 hours of the onset. In the other the appendix was not gangrenous at first, and the patient soon recovered from the attack. Three weeks later, however, he developed gangrenous appendicitis. Dr. Le Fevre thought that at present there was very little light on the predisposing causes of the disease. He was convinced that the number of cases of mild inflammation of the appendix was very large. While constipation was no doubt a predisposing and exciting cause, he could not but believe that there must be something beyond this. Thus, it seemed to him that the nutrition of the blood-vessels had something to do with the etiology. If appendicitis occurred in an individual in whom they were well nourished, the inflammation he thought would be slight, but if in one in whom they were poorly nourished, it would be severe and perhaps gangrenous. A faulty development of the abdominal vessels was also supposed by some authorities to be concerned in the causation.

Prophylaxis.—Dr. R. T. Morris thought that prophylaxis against appendicitis in a person who has never had the disease required the same kind of management as was required for preventing him from getting run over by an automobile. If a patient who has had one attack of the disease and carries a concretion or a mucous inclusion in his appendix, prophylactic measures may be expected to postpone an operation from the time when he is at leisure until some time when he has not a moment to spare or is off on a fishing trip in the backwoods of Canada. If a patient has neither concretion or mucous inclusion, and if no adhesions resulted from the primary infection, prophylactic measures may lessen the tendency to a recurrence which is liable to result from a variety of causes. It simply becomes a question for him to decide which is the more irksome, continued attention given to the appendix, with speculative results, or direct surgical attention which allows him to return to his work in 10 days after the operation, with no further trouble in sight. When peritoneal adhesions remain in the appendix region, prophylactic treatment may lessen the tendency to recurrence of infection, but the irritation of the terminal filaments of sympathetic nerves by such adhesions may be expected to have an effect upon the caliber of the blood vessels of the abdominal and pelvic viscera, with remote consequences equally important as the effects of an acute septic invasion. Some of the most desperate cases of appendicitis with which he had had to deal had occurred in patients who had been given prophylactic treatment, but who had not been given a full understanding of the nature of their cases.

Catarrhal Colitis.—Dr. R. C. Kemp said that on account of the poor circulatory supply and the flask-like shape of the appendix, the entrance of feces or any foreign material, as well as slight pressure or torsion, might readily interfere with the vitality and set up inflammatory action. One of the most important factors in the so-called mild cases of catarrhal appendicitis he believed to be catarrhal colitis, or rather acute exacerbations of a chronic inflammation. Local treatment of the intestine, with proper dietetic régime and the regulation of the bowels, would be of value as a preventive of appendicitis from this cause. He had seen cases in which prompt treatment of conditions causing congestion of the caput coli seemed effective in aborting an attack of appendicitis. In some of these pressure-symptoms and congestion were undoubtedly due to dietetic indiscretion and to fecal accumulation near the exit of the ileum into the caput coli. Local congestion, pressure, and auto-infection are the cause of the symptoms, and a large enema and brisk catharsis will relieve them. Under the old opium treatment such cases would undoubtedly have gone on to an attack of appendicitis. He suggested the desirability of carefully investigating the comparative anatomy of the caput coli and appendix in the two sexes. The possibility that the caput coli in the female is larger in proportion than that of the male, and hence may contain more material without pressure or irritation, also that the female appendix may be of such a caliber as to render occlusion less probable, are features which would seem to be well worthy of study. He referred to the value of irrigation in colitis, for the relief of tympanites, etc., and presented his own latest irrigator.

Dr. Sinclair Tousey thought there were certain things to avoid, rather than active measures to be taken, to prevent the occurrence of appendicitis. As to diet, there was probably nothing more liable to cause the disease than great masses of casein, as represented in a Welch rarebit or, to some extent, in any dietary of which milk forms a large part. Tea and coffee he would cut off altogether, substituting for them cool water in ample quantities, both with meals and at other times. There was nothing so essential to every stage of digestion and elimination as the presence of sufficient fluid, and the majority of civilized people did not drink enough with their meals. Excessive muscular effort in certain forms, like rowing and bicycle riding, had proved a factor in causing appendicitis, and was to be avoided. He would never entrust colonic flushing to the patient himself.

When this has been done, especially by means of a certain patented apparatus, it has been responsible for many cases of the disease. The administration of intestinal antiseptics like naphthalin and of such laxatives as aloin, belladonna and strychnine, and the prompt treatment of rectal fissure, ulcer or fistula, or of hemorrhoids, will prevent the occurrence of some cases of appendicitis.

BOOK REVIEWS.

Practical Obstetrics. A Text-book for Practitioners and Students. By Edward Reynolds, M.D., Visiting Surgeon to the Free Hospital for Women, Fellow of the American Gynecological Society, etc., and Franklin S. Newell, M.D., Assistant in Obstetrics in the Harvard University; etc. Illustrated with 252 engravings and 3 colored plates. Lea Brothers & Co., Philadelphia and New York. 1902.

Not since Dr. A. F. A. King first showed us that it was possible to make the dry details of technic in this subject an interesting affair to students have we had put before us such an excellent and convenient little text-book of this variety. The success with which the former volume by these authors met should be doubled by this book, as it will fill a long felt need for a clear and terse exposition of this branch of medical procedure. From a literary standpoint, it is most worthy of commendation and praise.

The chapter on "The Hygiene and Management of Normal Pregnancy," is one of the best of its kind that has appeared in any book for sometime past. The numerous little details of this period of female life, are most clearly dealt with.

All through the book is the evidence that the authors consider childbirth, a normal function, and that the one object in writing of the subject is not to make every condition which may arise an excuse for surgical interference.

The illustrations have been most carefully selected from the books of the present investigators, and not as is the custom, in the great majority of new obstetrical text-books, from the archives of the past experimenters.

A Nurse's Guide for the Operating Room. By Nicholas Senn, M.D., Ph.D., LL.D., C.M., Prof. of Surgery, Rush Medical College, in Affiliation with the University of Chicago, etc. Published under the direction of the Sisters of Charity, St. Joseph's Hospital, 360 Garfield Avenue, Chicago, Ill. W. P. Keener & Co., Chicago, Ill. 1902.

This little volume is a set of notes or lectures, delivered by Dr. Senn to the nurses at St. Joseph's Hospital, Chicago. As is intended, the text is simple and concise, dispensing with any tiresome and unnecessary details or technical explanations.

Valuable and simple advice is given to the nurse in the principles of anesthesia in the capacity of assistant to the surgeon, which of necessity must be the case sooner or later in the experience of every such individual. The preparations for operation in a private house, are exceedingly simple if intelligently carried out by the nurse, and they will not totally upset the household administration as is the general rule on such occasions. The sterilization of dressings and ligatures is clearly set forth: and the importance of the knowledge of strict asepsis is clearly shown by the author.

One feature of the book, which will materially add to its value, is a list of the necessary instruments which are employed in almost every surgical, gynecological and other operations. The necessary preparations for an obstetrical case, including the materials to be used by the nurse, mother and child and the doctor are given in detail.

Wherever it is of advantage, illustrations of the various instruments are given, along with the list of those employed in the operation.

We believe that this little volume should prove to be a most valuable help to nurses both in hospitals and in private practice.

Treatise on Diseases of the Skin for the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia; Dermatologist to the Howard and Philadelphia Hospitals, etc. W. B. Saunders & Company, Philadelphia and London.

Since the publication a few years ago of Duhring's excellent work on the skin, no book has seemed better adapted to the needs of actual practice than the present volume. The plates and text-illustrations, necessarily of great importance in depicting cutaneous lesions, are worthy of commendation.

With some modifications the classification of Hebra is used throughout, and undoubtedly this, though imperfect, is more helpful clinically than the alphabetical arrangement of some authors. The main groups are: Hyperemias, Inflammations, Hemorrhages, Hypertrophies, Atrophies, New Growths, Neuroses, Diseases of the Appendages, and Parasitic Affections. Like other dermatologists, the author treats epithelioma by caustics rather than by excision, defending his action by noting that the epitheliomata which come to the skin specialist are usually superficial, slight, circumscribed and slow. Regarding erythromelalgia as a neurosis, he fails to note the cases in which dissection has shown local arterial disease. For illustration of erythema multiforme the uncommon varieties are chosen. Drug rashes are dismissed with too brief mention. The extensive chapter on syphilis with its accompanying illustrations is complete and interesting, syphilis, with lupus and lepra, being classed among the new growths.

BOOKS RECEIVED.

The Medical News *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* Medical News *will shortly appear.*

The Public Health and the Doctor. By a Regular Physician. 16mo, 149 pages. Dallas, Texas.

The Proprietary Association of America. Twentieth Annual Report. Joseph Leeming, Secretary, N. Y.

Transactions of the State Medical Society of Wisconsin. Vol. xxxvi, 8vo, 473 pages. Illustrated. Madison, Wisconsin.

International Clinics. Vol. III. Twelfth Series, 1902. 8vo, 306 pages. J. B. Lippincott Company, Philadelphia and London.

Diseases of the Skin. By Dr. Joseph Grindon. 8vo, 377 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

The Schott Methods of the Treatment of Chronic Diseases of the Heart. By Dr. W. B. Thorne. Fourth Edition. 8vo, 138 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

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ORIGINAL ARTICLES.

PREVENTIVE MEDICINE.*

BY WILLIAM A. HOWE, M. D.
OF PHELPS, N. Y.

THE proverbial "ounce of prevention is worth a pound of cure," has steadily risen from a trite old saying, into one of the most potential dicta of modern times. In medicine it underlies the great fundamental principle of self-preservation, which to-day we find manifesting itself, in so many departments of our science.

Though the idea of preventing disease, has pervaded our literature, almost from its conception, it has remained for the past two decades to place its practical application within the reach of man. Its scope is being rapidly and constantly extended, and there is no department of our art today, in which more revolutionary results may, with certainty be predicted for the future.

While thus far the indefatigable researches of the bacteriologists have been productive of the greatest advancements, theirs is not the only field in which we may hope for remarkable results.

In addition to these biological students, we are in the midst of an age of brilliant specialities, an age where many of our most gifted men are concentrating their entire mental energies along one special line of original research, the outcome of which is bound to be fruitful. Fruitful, not only of advanced ideas but of advanced methods, by which their ideas and those evolved by the bacterioligists, may be put to practical use. While their devotion to singleness of purpose must of necessity circumscribe their sphere of individual work, it constantly raises them to a higher degree of professional proficiency in their special lines than they could otherwise hope to attain. It is gradually placing them into closer and closer touch with the etiological factors of disease, and enabling them and us to better administer the ounce of prevention rather than the pound of cure.

As in the past, they have succeeded in discovering and isolating the cause of so many diseases, so will they continue to succeed in the future. For just so surely, as cause must precede effect, so will their ultimate solution of the cause of disease, enable us to largely prevent its occurrence.

Eventually, they will not only place in our hands better and more efficient means, with which to combat disease, but *knowledge* by which practically all of the contagious and infectious diseases may ultimately be either obliterated or controlled.

For just so surely as "knowledge is power" so are these persistent toilers apt to evolve the great physician of the future, who will devote his talents more to the prevention than to the treatment of disease.

Should we wonder that such might be possible? Should we wonder that with all the rapidly accumulating knowledge at their disposal, these progressive students, should in time perfect a system, applicable to so many cases, as to justify a specialty in itself? Should we wonder, that in view of the present activity of original research, with its promising possibilities for the future, the great physician of the next generation should be one who successfully prevents disease rather than he who treats it?

Look where you may to-day, even a casual observer can but discern the ever increasing efficiency of preventive medicine.

Not only is the medical profession fully appreciating the great good which can be accomplished in this special field, but many states and municipalities are lending their financial and moral support to accomplish the same end. Numerous sanatoria are being erected, liberal appropriations are being freely voted, and the great tidal wave of preventive medicine, is annually rising higher and higher, and commanding greater and greater public support.

It is becoming more and more evident, not only to the medical profession, but to the vital statistician, that the best and most successful time to treat all contagious, and infectious diseases is *before* and *not after* they have attacked the individual. So universally is the principle of preventive medicine now accepted in our profession, that in the light of our present knowledge of the etiology and means of propagation of many of the contagious and infectious diseases, it would seem as if no physician could to-day rightfully excuse himself for allowing them to spread.

Are we to-day, as country physicians, keeping pace with this all important advancement? Are we, as general practitioners, availing ourselves of the many modern advantages at our disposal for preventing disease and its resulting complications? Are we as diligent as we ought to be in this direction, and are we giving to the subject in its many phases the careful consideration to which its recognized importance justly entitles it? If not, why not? Surely it can not be for lack of resourceful opportunities for inaugurating and executing prophylactic measures, as there is no field in our profession which offers greater opportunities for this work than are to be found in the life of the country doctor. While, as a class, we rejoice that there is no station in our vocation where a greater multiplicity of duties devolves upon the physician, or where the same are met more conscientiously, and successfully, than by the country doctor, we ought at the same time to admit that we should be rightfully expected to exert a maximum restraining influence over the propagation of disease. Favored as we are by our environments, how much more important does it become that we should avail ourselves of every means at our disposal to not only fortify our knowledge but to give to our dependent families every possible protection from impending danger.

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* Address read at the annual meeting of the Ontario County Medical Society by the retiring president, July 8, 1902.

Let us not content ourselves to ride along the old beaten road of *ease,* but let us be up and doing, that we may keep pace with the ever progressing ideas of our delightful profession.

Let us watch diligently, the researches of those men, who are destined, in time, to determine the cause of most, if not all, existing diseases, and when they have thus succeeded, let us further co-operate with them in their efforts to remove or treat the cause. For the cause once found, the battle is half won, while with the cause removed, the battle is surely ours. Let us therefore, study and practice medicine, not entirely from a medical point of view, but from a hygienic standpoint; thereby preventing many of the troubles to which man is heir. Let us devote more time and attention to searching out and removing the cause of disease, and less time to struggling with its ill effects. For certain it is, that no greater victory can ever crown the efforts of the medical profession, than to be able to conquer a disease while it is in the act of imparting its poisonous germs to others. We must all admit, that it is a far greater victory to be able to prevent disease than to assist nature to cure it after it has once arisen. How often do we see this forcibly demonstrated in smallpox exposures, where during the incubative stage, vaccination steps in and robs this loathsome disease of its victim? How often can the same be said of Behring's anti-toxine in its immunizing influence over otherwise doomed children?

How often do we now deprive rabies of its victim by Pasteur's method of vaccination? How often do we now check the ravages of that insidious slayer of mankind, tuberculosis? A disease which, though preventable, has already assumed the magnitude of a national calamity, by striking down nearly seventy per cent. of all who fall in death in our country.

In the face of such a startling fatality, we can but stand in amazement, that even greater and more efficient means for staying its progress are not in vogue. But, thanks to the persistent and aggressive efforts of our profession, the country is awakening to the impending danger, and promises in the near future to rise to meet the emergency. It would seem as if the time were not far distant when every State in our Union, would maintain institutions and other means for eradicating not only tuberculosis, in its many forms, but all of the preventable and controllable diseases which, from statistical data, produce at least 80 per cent. of all of the deaths occurring in the United States.

Therefore let us, the physicians of Ontario County, enlist ourselves heart and soul in the great struggle before us. Let us not be found wanting, in doing our full duty, to assist the profession and the government to stamp out the many black spots on the sanitary map of this our beautiful country. Let us see to it that every family under our care is fully familiarized with all of the dangers incident to every contagious and infectious disease, and is taught the means by which they may escape their invasion.

Let *prevention* be our motto, not only to-day and to-morrow, but *always,* and such of us as prove the most faithful to its precepts, will reap the greatest reward.

REMINISCENCES OF NEARLY HALF A CENTURY IN MEDICINE AND SURGERY.*

BY CHAS. K. BRIDDON, M.D.,
OF NEW YORK.

I do not know who is responsible for the adage or observation that has been handed down from antiquity that the span of man's life is only three-score years and ten; but I strongly suspect that it emanated from someone who had reached that limit without accomplishing anything satisfactory, and, not wishing to depart without leaving some issue, scientific, literary, or in the other various activities, sought an extension to work out his personal ambition.

The ego is more or less a prominent feature in most of us, in some it is to serve others by life-long study into the causes of things that are inimical to the well-being of humanity, and in many this sacrifice is made with no other ulterior view; in others it may be only ambition, personal and pure; fame that he only grasps who outwits or outruns his fellow-man in pursuit of the object of his life. For the accomplishment of these ends the span of life referred to is short indeed, but inasmuch as we are all aided by what has been done before, and what is being done by co-workers, the results are not by any means barren.

Referring again to the time limit, I can speak from personal experience because I have been there, but before quite reaching it, I had sufficient personal interest and introspection to recognize the fact that all was not well. I could distinguish the mutterings of revolt in the mechanism in which I had a personal interest, and, like the "Good Physician," I determined to investigate, but I could not determine or differentiate as to whether the encephalic or abdominal brain was at fault. Some of you may remember that the function of the latter was given to the semilunar plexus; I did not consult anyone, because I did not confess my weakness, that was my infirmity.

At the period of which I am speaking, our illustrious colleague at Chicago had not given to the world his studies bearing on the subject of parthenogenesis, in which he likens man to a mass of protoplasm, controlled by an electric plant in which his stomach represents the dynamo, his nerves the connecting media, the telegraph wires for connection between the different parts of the body and the storage battery in his brain. Then his most wonderful of all, the fertilization of the sea-urchin without the consent or approval of the urchin's love. All this will, undoubtedly, bear upon the future, but my interests were in the past and present.

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*Abstract of Address made before the Society of the Alumni of the Presbyterian Hospital in the City of New York, 1902.

Going back to where I switched off to the things that I know not of, I came to the conclusion that there was a strike or protest on the part of some of the employees in my internal economy, and that I would circumvent those that were up in arms by closing the plant for repairs, and it might happen that, while I was waiting to resume, some good student peering into the hidden mysteries of life might discover the electrical energy, enzyme, or other agent that could liquefy the coagulating protoplasm, and send it again on its way of life and youth and endurance unto the end.

Excuse me if I have transgressed in treating a subject of such transcendent importance with unbecoming levity. Do not believe that I underestimate the unflagging zeal, the untiring and ceaseless energy that has revealed facts of such momentous importance. I would remind you that, though there are many workers in the field, it is often by their united labors that the greatest results are obtained; each giving his quota either to sustain or correct the observations of his fellow workers. There is ample room for all, and in the future, which is pregnant with so much, the probabilities are that in this great country the opportunities will be greater and that you will not be required to visit the mother country in search of the necessary training for the technic of laboratory work. Ponder over the advantages that may accrue to those of you who have the mental endowments necessary to pursue such investigations, and may you succeed in your earnest efforts to add to the store of facts in the elucidation of the unknown. Nature will not give up her secrets without a struggle, and in the contest you will often be disheartened by meeting with failure in some by-path into which you have been lured by false lights. You will often have to retrace your steps, and, maybe, have to do all over again; but with the proper unflinching spirit of the investigator, you will, I trust, come out of the contest crowned with the laurels of enduring fame.

And now, gentlemen, I will endeavor to redeem the promise made your President to give a few "Reminiscences of Nearly Half a Century in Medicine and Surgery;" of the hard lines of a practitioner in either of those two departments in the earlier period of that time; and of the comparative ease with which he succeeds in achieving the same results to-day. This statement is intended to apply to the practitioner. The student of those days, of course, was not so well prepared; the "curriculum" was short; the didactic or scholastic lectures were not highly impressive, and there was little or no laboratory instruction. So, when the young man had obtained his legal qualifications he was still ill-fitted to begin his career as a healer of the sick. In the eager competition for a position in one of the few city hospitals, many, of course, failed of success, not on account of any inherent lack of the necessary qualification, but because the vacancies were few and the applicants many. Often he had to select a place where he might hope to gain a foothold in the battle for life, and his lot was certainly not an enviable one without the necessary training under competent clinical instructors. His early career was saddened by catastrophies and disappointments sufficient to dampen the ardor of even the most resolute and sanguine. If the proper material was in him, his careful observation of the cases entrusted to his charge would in the end bring an experience more or equally enduring than that acquired by those of his more fortunate classmates, who had succeeded in getting positions where they could watch the processes of disease, without assuming the responsibilities associated with its treatment.

I regard the man who leaves the great centers of learning in our large cities, and who goes out into the backwoods to practise medicine and succeeds, as a hero. He rapidly learns to deal with emergencies; he becomes self-reliant and trustworthy. Of course, he has to contend with many things; he recognizes that his failures and his successes are the gossip of the community in which he lives. The tongue of malice which exists everywhere may assail him, and he may have to drink of many a cup, more bitter than those he prescribes for others, but if he has tact and judgment he will grow up with them socially as well as professionally. Their sorrows and their hours of gladness will be mingled with his own; his counsel will be sought in matters outside of his proper vocation, and, when the period of his labor closes, he will be solaced by the conviction that he has done his work well, and that he will live in the memories of those who survive him.

I know of no more fitting illustration of the good accomplished by such men than that given by Ian Maclaren in his "Bonnie Briar Bush" stories in his description, "A Doctor of the Old School." The village doctor, William MacLure, "who was chest doctor and doctor of every other organ as well; accoucheur and surgeon; he was oculist and aurist; dentist; chloroformist; besides being chemist and druggist;" and whose risks of life in a practice, covering more than thirty miles in the bogs and snowdrifts of Scotland, earned for him more love in the hearts of his countrymen than that attached to the Victoria Cross, won by other men in other fields. However, do not think that I am disposed to award all praise to the "village doctor," notwithstanding the high esteem I have for him, for in most of the walks of life there are good, bad, and indifferent. I have come in contact with types of all these grades.

Now, I must speak of the general practitioner in a city of fifty years ago, and I can assure you that, if he was one of those fortunate ones who had gained any degree of popularity with the masses, his occupation was no sinecure. The rank and file of the profession were at no time sure of obtaining a night of unbroken sleep; I may safely say that for the first twelve years after I was fairly engaged in practice I rarely passed a night without being summoned to some bedside. I was surgeon to the male attending department of the New York Dispensary from 1857 to 1865, an institution that averaged about 40,000 medical and surgical cases a year. I had made arrangements with the district physicians to attend personally to all the surgical cases that would not or could not be sent to a hospital. I had my hands full; operations of all kinds had to be done in tenement houses of the poorest kind, many tracheotomies and herniotomies were done at night in rooms illumined with tallow candles, or in some more favored place with a kerosene lamp, with untrained assistants, and with few or no antiseptic precautions. There were other dangers; often the mutterings outside the locked door were significant of the possibilities of personal violence in the event of an unsuccessful issue of the case.

I have always regarded the period of my life during which I was on the staff of the New York Dispensary as the most active and trying of my professional career. Besides the duties appertaining to that office, I was engaged in active practice among the poor, and consulted in most of the emergencies in the lower wards of the city. It certainly was not lucrative, but the reward came, nevertheless, in the consciousness that I had done the work to the best of my ability.

Before I became associated with the Presbyterian Hospital anesthesia had divested surgery of its most disagreeable feature. Aseptic precautions were not then in existence, but antiseptic resources had rendered many things possible that would have been reprobated at an earlier period. With the advent of asepsis all things were made subservient to the will of the operator; the three great cavities that nature had enclosed with walls, heretofore regarded as impregnable, are now opened with impunity to the scrutinizing eye of the investigator, and now it would be difficult to find anything in the whole domain of surgery which the practitioners in that department cannot accomplish. Their triumphs have been nothing less than wonderful, and it is difficult to conceive that there remains much more to be done.

I scarcely like to speak of the past in connection with the Presbyterian Hospital; things are so changed from what they were a quarter of a century ago. Then we had no trained nurses, the examination of applicants for the House Staff were not of such a character as to ensure us the best of men; the staff of the attending physicians and surgeons was too numerous to work to the advantage of the patients; but time changed all these conditions, and now I think we may safely say that the institution ranks with any of its kind, either in this or any other land. The high standard of teaching and the immense opportunities for observation have, naturally, attracted the best equipped men for positions on the House Staff, and this emulation to get there has gone on increasing, and is becoming a more pronounced feature every year. In fact I do not think a man who was not fit would have the courage to enter the list of those who offer themselves for such positions.

I must not forget to mention one other very potent factor in the success to which the institution has attained. I refer to "The Training School for Nurses." A few weeks ago in a conversation with Miss Anna Caroline Maxwell, one of our most distinguished women engaged in the training of her sex for nurses, allusion was made to remarks made to her in 1873 by one of Boston's most celebrated surgeons, in which he expressed the apprehension that the training of women would conflict with the career of men, and their education would make them dangerous competitors. I must confess that when the present organization, "The New York Training School for Nurses," came into existence, I myself looked upon it with some disfavor. It was my opinion at that time that women selected from the lower classes, feeling themselves elevated by being placed in such positions of trust, would do the best work. I had no idea that vacancies would be so eagerly sought for by the best intellect in the land, and that their scientific training would make them only subordinate to the physician himself. How much our own anxieties in private practice have been diminished by their faithfully performed duties in the sick chamber, only those can appreciate who were engaged in practice before the advent of the trained nurse. Then the physician was called to the sick at all unseasonable hours; now his colaborer quiets the anxieties of the patient and the still more annoying and vexatious ones of the patient's friends, and the attending physician has only to make his visits at seasonable hours, with the conviction that he will not be disturbed without good and sufficient reason.

To such arguments as those adduced by the Bostonian and myself, before either of us were convinced by the proofs that came after, I would reply that the field is sufficiently large to afford abundant opportunities for both men and women; and in the process of evolution that is going on over the whole crust of the earth the "trained nurse" might be properly regarded as a variety or subvariety of the genus medicus, and that it might be possible in eons of time, with proper surroundings and adaptation, that she should come to equal or surpass the physician. Even with such remote possibilities it would be our own fault, and only another proof of the "survival of the fittest."

In concluding this fragmentary address, I can not refrain from paying my tribute to one who has been removed from his sphere of usefulness in the Presbyterian Hospital by the hand of death; I need scarcely say that I allude to our beloved and lamented friend, the Rev. Thomas G. Wall, D.D. Coming into frequent contact with him during all the years in which he filled his offices in this institution, first that of superintendent, and, subsequently, when it was considered that the duties of that office were too onerous, when the office of Chaplain was created for him. I found him ever the same kind and courteous gentleman, commanding the respect and admiration of all those who came in contact with him. Suffering for a long time before the end came from a malady associated with such agonizing paroxysms as would have confined most men to the sick chamber, he continued performing the various duties of his office unto the end, dying in the act of administering one of the rites of the church at the bedside of an inmate of the hospital. A more noble termination to a career devoted to the afflictions of others and culminating in a moral grandeur that could not be eclipsed by anything conceivable to the finite mind it would be difficult to imagine. He has passed from among us, but he will live in the memories of all those who knew and loved him, as an example for us all.

THE HYOSCINE TREATMENT OF A MORPHINE HABITUE.

BY RANDLE C. ROSENBERGER, M.D.,
OF PHILADELPHIA, PA.;
DEMONSTRATOR OF BACTERIOLOGY, JEFFERSON MEDICAL COLLEGE.

The case under consideration was that of a male aged thirty-three years, married. Eleven years ago he complained of intestinal colic and was given a hypodermic injection of morphine for relief. The physician in attendance left extra tablets at the bedside in case the patient grew worse. These were confiscated by the patient, who later asked the physician "what was in those pills," and was told that they contained morphine.

From that time until seven months ago he continually took large quantities of this drug. Toward the latter part of this period his indulgence amounted to at least 30 grains daily. Sometimes as high as 60 grains were taken. About two years ago in trying to break him of the habit by reducing the dose, chloral hydrate and sodium bromide were given, as he complained of not sleeping well without his usual dose of morphine. These drugs he also came to use to excess.

His method of taking the morphine was to take 50 half-grain tablets, crush them in his hand, place them in his mouth, chew them and wash them down with the mixture of chloral and sodium bromide. This latter mixture contained six drams of chloral hydrate to three ounces of water. Half this quantity (1½ ounces) would would be his "wash-down" amount.

This he kept up for at least two years. The habit disgusted his relatives and this feeling on their part at times made him quite melancholy. He claimed that he had tried to do better, but could not. He absolutely refused sanatorium treatment, or treatment of any kind. He often said that if he should ever be broken of the habit he would immediately go back to it. He had an unlimited supply of the drug. The writer furnished him with a regular amount monthly, but druggists whom he bribed supplied him to a far greater extent.

His occupation (grocer) necessitated his making change a good deal and at times he would quite forget what money was handed him and frequently would give change in excess of the proper amount. This forgetfulness together with a general laxity as regards care of the store and of himself made his wife very anxious about him. Sometimes he would be agreeable, at other times was ill-tempered and unreasonable. In addition to taking morphine and chloral he was an inveterate smoker and coffee drinker. Twenty cigars a day, three and sometimes four large cups of coffee at his meals, would be about his average indulgence.

He constantly complained of pains in the calves of his legs and in his back. He would say that there were two large areas over the kidneys which were "as cold as ice." His urine being examined, showed a specific gravity of 1.018; albumin abundant; hyaline and a few granular casts. Basham's mixture relieved his urinary symptoms to a certain extent. Impotence was complete for the last two or three years.

At one time he did without his usual daily dose and was seized with diarrhea and acute mania (?), butting his head against the wall and against the bed, cursing and having hallucinations of someone trying to get him and drag him to a sanatorium; he also threatened to shoot himself and his wife. This lasted for several days and gradually subsided upon resuming the drug.

When the patient first came under observation the writer gave hypodermic injections of hot water or strychnine or atropine, but before the visit was over found that it was necessary to give him morphine.

At last his wife, who had endured his conduct nobly and bravely for years, reproved him quite severely, and before retiring that night the patient said he took 100 half-grain tablets of the drug and a bottle full (three ounces) of the chloral and bromide mixture. This was taken with suicidal intent but failed to prove fatal. The following morning, December 31, 1901, being summoned hurriedly, the writer found that the patient was in an acute maniacal condition. His wife described his actions during the night as terrifying. He talked about selling the store, about somebody trying to rob him, seeing people in the room, people coming through the ceiling, some hiding in the closet, water dropping from the ceiling, and lastly grasping his wife by the wrist, said she was a burglar and threatened her life. He was at last partly quieted and remained in bed, but every now and then would suddenly jump up, tear off the covers and make remarks like those quoted above.

As I was about to go up stairs he appeared at the top, and started down (with nothing but a quilt thrown over him), calling for his wife to come up as there were burglars there. By gentle persuasion he was finally induced to go to bed again, and at this juncture something had to be done and done quickly. To get him to a private hospital was almost impossible in the condition he was then in. A consultation was agreed upon and Prof. H. A. Hare was asked to see him. He came, saw the patient and advised home treatment, with a nurse, and suggested a line of treatment laid down by Dr. M. K. Lott of Cameron, Texas.*

This consists of giving hyoscine hydrobromate (gr. 1.200 or 1.100) every 30 or 40 minutes to one hour hypodermically and keeping the patient constantly under its influence. If the heart or respiration fails, give strychnine (gr. 1.30 or 1.20) every three or four hours. Accordingly, a nurse was obtained and the treatment begun. *There was absolute and immediate withdrawal of all morphine.*

On account of the kidney complication a hot pack was ordered. He submitted quietly to the latter and then he was given at 4.50 P.M. $^1/_{100}$ grain of hyoscine followed at 6, 7.30, 9.30 and 11 P.M. by $^1/_{200}$ grain doses. After giving the first few doses he seemed quieter, but once or twice broke out in fits of violence, throwing off the covers, striking at the nurse and others who came near him. Low mutterings and restlessness marked the termination of the first day. At 6 P. M. he passed 22 ounces of urine. His pulse varied from 82 to 70 and respirations 16 to 18 per minute.

The second day he was given $^1/_{200}$-grain doses of hyoscine every two hours and $^1/_{20}$-grain doses of strychnine nitrate every four hours. His pulse varied from 84 to 62 and his respirations were never more than 12 and once as low as eight per minute.

At this stage of the treatment he became very obstreperous. He was hard to keep in bed, reached for imaginary things, muscular twitchings were seen over his whole body, his eyes looked strange and staring but improved when under the hyoscine. He made a request for morphine and was given one-fourth grain hypodermically but with no more effect than if it had been pure water. During the day he passed nine ounces of urine.

The third day was about the same as the second with the exception that his respirations did not fall below 11 per minute; pulse 56 to 80; bowels moved once and on one occasion he passed four ounces of urine and eleven hours afterward 50 ounces. Hyoscine was increased the last half of the day to $^1/_{100}$ grain every two hours. There was less twitching and moving about and at six P. M. the patient wanted to fight and insisted on getting out of bed.

The fourth, fifth, sixth, seventh and part of the eighth day *1.100 grain of hyoscine was given every hour* and strychnine nitrate (gr. 1.30) four times during the day. During these days the patient was less restless, slept several hours at a time, and looked brighter. The skin became very hyperesthetic and if touched ever so lightly, severe muscular twitchings were produced. The respirations were from 12 to 18 per minute, pulse from 84 to 60. Bowels were evacuated twice during these five days. Urine on the fourth day 29 ounces, fifth day 22 ounces, sixth day 12 ounces, seventh day 14 ounces, eighth day 27 ounces. The hyoscine during the latter part of the eighth day was reduced to $^1/_{100}$ grain every two hours. At this time a bright red rash was apparent upon the thighs, knees, legs, body and face.

During all this time his talk was unintelligible, partly on account of dryness of mouth and tongue. The latter organ felt as hard and dry as a splintered board.

On the ninth day he voided 37 ounces of urine, on the tenth day 40 ounces, on the eleventh day 58 ounces at one time and 26 ounces at another time, on the twelfth day 34 ounces (22 ounces at one time and 12 ounces on second urination), thirteenth day 43 ounces (36 ounces at one time and seven at the second urination), fourteenth day no urine voided at all and no bowel movement, fifteenth day 53 ounces at one time, ten ounces at another and seven ounces at third urination.

The patient was quiet, especially after each injection, and on the tenth day he begged for a hypodermic of morphine or pills of morphine. After a severe lecture he quieted down and *never asked for the drug again.* The pulse ranged between 62 and 84; respirations 18 to 22 per minute.

Patient now began to feel stronger and became able to help himself more. At times he still picked the bedclothes and was heard mumbling about money matters, or of someone stealing from him, and not until the eighth or ninth day was he able to identify anyone. If attempts were made to force him to drink he would spit the milk in the attendant's face without warning. The tongue still remained hard, though after several days moistening with glycerine it gradually became softer and more moist.

After the twelfth day the hyoscine (1.100 grain) was given every three hours and strychnine nitrate four times daily. The hyoscine was stopped entirely on the fifteenth day. Up to this time he had taken $1^{22}/_{25}$ grains of hyoscine in fourteen days. Strychnine in the form of the nitrate $^1/_{30}$ grain four times daily was the only medicine given from now on.

The bowels had been evacuated once a day, sometimes once in two days. After the seventeenth day the bowels were evacuated two, three and four times daily. The stools were liquid in character and attended by some pain. As this became persistent, suppositories of bismuth subgallate (20 grains every three or four hours) were given with beneficial results.

Insomnia now bothered the patient. This was controlled by trional in doses of 20 grains in hot water. A dose of hyoscine ($^1/_{100}$ grain) was also given in conjunction with trional.

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* Therapeutic Gazette, Feb. 15, 1902.

On the eighteenth day he insisted that it was impossible for him to get along without morphine, so I compromised by giving him one-fifth grain *apomorphine* hypodermically with the satisfaction of seeing him much quieter and less obstreperous. No vomiting or even nausea was produced by this dose of apomorphine.

Trional was now given twice daily, with apomorphine one-tenth grain. On account of great restlessness and nervousness a mixture containing sodium bromide 20 grains was given three times daily.

From the eighteenth to the twenty-fifth day he gained strength daily, ate readily of pretty nearly everything, though in the first two weeks a liquid diet of milk and egg-nog was prescribed for him. Convalescence was rapid, and marred only by a slight diarrhea (seven to eight movements daily), which was readily controlled by the bismuth subgallate suppositories.

Eleven months have elapsed since this line of treatment was first instituted and the patient is now as healthy (except his kidney condition) as can be expected in one who has drugged himself with morphine for eleven years. When the treatment was first begun morphine tablet triturates were found in bottles in his trunk, tied up in stockings, in under-drawers and in the pockets of his night-dress. Powdered morphine was also found, as well as cubes of the drug one-half inch in thickness.

His wife at my suggestion daily makes careful search of the clothes which he wears, and those he changes, but in none of them up to the present time has she found one tablet of morphine or a suspicious substance of any kind. He swears that he will never touch it again.

The points of interest in the treatment of this case are: First, the total suppression of the drug, he not having (except the one-fourth grain given) a grain of morphine during the entire eleven months' time; second, the comparatively large doses of hyoscine given so regularly and persistently, $^1/_{100}$ grain being given every hour for four and a half days at one period; third, the associated kidney lesion made it much harder to give a favorable prognosis.

From the favorable results the writer thinks in such cases it would be advisable to give the hyoscine treatment a trial. He wishes to express his thanks to the nurse, Miss Kirby, for the painstaking, earnest and efficient work which she rendered.

SOME PHASES OF INFANTILE FEEDING.*

BY EDWARD T. ABRAMS, A.M., M.D.,
OF HOUGHTON, MICHIGAN.

There is, perhaps, no branch of practical medicine of more real interest to the general practitioner than that of pediatrics. Indeed he may be called the great pediatric specialist of to-day. And yet were we to analyze his knowledge more closely from the accurate pediatric standpoint, we should find, I am sure, that his claim to the aforementioned distinction would be slim indeed. There is, however, a general consensus of opinion among the laity that when a physician is "not much," as they express it, in surgery, gynecology, obstetrics or general medicine, he is always a real, good man for children.

But when we realize that one-tenth of all infants born die before the completion of the first month and one-third before the end of the third month we shall be aware of the fact that nearly one-half of the human family die in infancy. With such an enormous death rate we must surely appreciate the greatness of the responsibility resting upon the medical profession at large.

Innumerable as are the factors which enter into the causation of this very large mortality, none can be compared to faulty feeding. It is a fact worthy of notice and also of serious consideration by the profession that the majority of young mothers, many of whose education has been faultless so far as literature, music, and the demands of polite society are concerned, know absolutely nothing of maternity; and the young infant in a great many cases, is not even left to shift for itself, but in too many instances is being *shifted* by anxious, but ignorant, mothers, grandmothers, aunts, etc., from one form of diet to another until death ends the panorama. By infant-feeding is meant the nourishment during the first year of infants who are deprived of the maternal breast. The subject of wet-nursing will not be considered further than to say that while in the great majority of cases it is not required, there are cases where it is indispensable.

Three forms of infant feeding are at present before our people from which they, with the advice of their physician or independently of him, make their choice.

1. Canned condensed milk.

2. Patent foods, with or without the addition of milk.

3. The use of only the elements of cow's milk with or without some form of sterilization. The milk may be modified by simply diluting it with water, or still more complex change may be made by varying the relative combination of fat, sugar and proteids.

This latter method, more or less accurately worked out, has been before the profession of this country since 1882. It was first brought to our attention by Meigs, following Biedert's work of nearly ten years previous. It was left to Prof. Rotch of Boston, however, to arouse the medical profession from its lethargy, and it is due to him more than to anyone else that the first general impulse to the study of the subject was given. Scientific feeding, however, was still beyond the great mass of physicians until Thompson Wescott, in 1897, formulated simpler methods of computation; and to-day percentage feeding *is* and *ought to be* the only method of infant feeding as it is the only one based upon scientific procedure.

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* Read at the Seventh Annual Meeting of the Upper Peninsula Medical Society, July, 1902.

In considering the subject of infant feeding, however, we must keep in mind the fact that in this, as in all subjects, nature knows best. No prepared food, whether home-modified cow's milk or the more accurate and elaborate laboratory preparation can take the place, absolutely, of mother's milk, other things being equal. Neither should one jump to the conclusion that because the child does not thrive and grow that it is a sign—proof positive—that the mother's milk does not agree with the child. In this as in all other cases, eyes, ears and brain must be used to find the cause. In by far the greatest number of cases, however, we shall find that the fault is in the feeding, viz.: Method of feeding, quantity, etc., or in the character of the food itself. The mother may have a good quality of milk and yet the quantity may be insufficient. In such case I do not believe it to be a wise or good rule to stop nursing altogether and place the child upon simply artificial feeding, but would rather combine both methods. I do not deny that it may be possible, in some cases, when the child is in the hands of the physician from its birth, that as good results may be obtained by artificial feeding as by breast feeding, but the cases will be very limited in number indeed. We all, I am sure, feel much easier when the breast-fed infant becomes ill, than when it is the artificially-fed child.

An extended series of weighings covering a long period of time has proven that breast-fed infants not only exceed in weight those artificially fed, but that their chances of living is decidedly increased. Therefore no one would be justified in recommending weaning on any slight provocation or simply to satisfy the whim of some fastidious mother.

To be sure the breast milk must be of the proper composition. We are not to recommend it simply because it is breast milk. It is a very great mistake to abandon breast feeding at once, however, because the mother's milk is not agreeing or even because it is not of the exact composition; for to do so will many times only lead us from bad to worse. Therefore, one of the first things to settle in our minds is: Is the breast milk really at fault and cannot that fault be rectified? Infants many and many times thrive on breast milk which has a wide deviation from the true normal standpoint of composition. Therefore do not recommend weaning until you are satisfied that it is the only and the very best thing to do.

I said at the outset that nature's way is always the best, and if that be true, then when we are compelled to interfere, our plain duty is to imitate nature as closely as we can. Now we know that mother's milk contains about four per cent. of fat; and that cow's milk contains approximately four per cent. of fat; that mother's milk contains about seven per cent. of sugar, while cow's milk only four and one-half per cent.; that mother's milk contains about one per cent. to one and one-half per cent. of proteids while cow's milk contains four and one-half per cent. Of course these percentages do not express *all* the differences there are between human and cow's milk, but the latter is the very best substitute for the former that is obtainable and therefore we must so change the proportion of these ingredients in cow's milk that they shall approximate, as nearly as may be, the composition of human milk. It will not do, however, to make up a standard mixture and treat all cases alike with it, but rather our effort must be to treat the individual child. We cannot, in any event, make an exact human milk. We cannot, as practical men, engage in scientific research, but we can surely put to use in a practical way, to the comfort and benefit of our patients, that which science has demonstrated to be practical. Of course we can dilute the cow's milk with water and we can get certain results; then again we add so much cream and we get results good or bad as the case may be, but we do not know just what we have done. Very good results, however, are often obtained in this haphazard way; yet I am sure that after faithfully trying the percentage method of infant feeding no one will be content to again go back to the rule-of-thumb method. One of the essentials of percentage feeding is that we obtain a milk and cream of some definite or approximately definite standard. Since it becomes more or less impossible for us to have definite analyses made I think it is approximately safe to assume that the average cream will be found not far from 20 per cent. fat; at any rate, not lower than 16 per cent.

One of the best end results obtained from percentage feeding is that when mastered the physician is able to think in percentages, construct his own formulæ, reduce them to simple, definite terms, and know absolutely what the infant is taking.

It is so easy to follow the old, beaten paths that the fathers trod before they fell asleep, that many of us are ever ready and willing to take some "hand-me-down" formula from somebody or anybody, and give it to each and every infant with "stomach trouble" who may be unfortunate enough to "happen our way."

Any man who is unwilling to give his best thought—to study—to learn—and above all, to apply the most scientific methods of feeding as they have been worked out and given to the profession by the best pediatrists, had better turn his cases of this class over to some one who is not so lazy and who realizes that his duty and responsibility to his little patients is to give to them the best treatment that science and common sense dictate.

As regards the first and second methods enumerated at the opening of this paper, I will say: (1) That I have absolutely no regard or respect for the man with his little can of condensed milk and I really doubt if he has any for himself. (2)

As regards the thousand and one commercial foods that flood the market, I can only say that those most competent to judge have placed their veto upon them, and I am pursuaded that the longer one lives and the larger his experience with infants, the less will he be inclined to use them. Of course, if I had an infant that was taking one of them and doing well upon it I do not think I should risk a change. But starting, I certainly should not use any of them. There are some cases—and they trouble us not a little—that will thrive on them when the ordinary percentage milk formula does not agree, but they are the exceptions. I knew a baby that it seemed impossible to feed by any rational method, yet it went through eight months on nothing but barley water, and was apparently one of the most robust youngsters I have ever seen. These cases are very rare indeed, as anyone who has paid attention to the subject very well knows. Nearly all of these foods consist of a large percentage of starch, which, in the majority of cases, is not transformed; and if they be mixed according to the directions usually given they contain no proteids. When mixed with milk I fail to see the advantage over the percentage method in simplicity and we certainly are ignorant as to exactly what we are giving. Infant feeding is nothing more or less than a problem of nutrition, and therefore the success or failure of any method must be judged by its ultimate results.

The prolonged use of condensed milk or any of the patent foods now on the market will sooner or later, if persisted in, show the lack of some essential element required by the growing infant, which is supplied by fresh milk and by fresh milk only. These manifestations come in the shape of rickets, scurvy, and general malnutrition, and in consequence of which there is developed an exceedingly feeble resistance to any of the acute disturbances of childhood, so much so that they easily prove fatal; or they lay the foundation for puniness and delicate health during the whole of childhood. We may lay it down as a fact that all the patent foods now on the market are useful in proportion as they are mixed with fresh cow's milk.

We must depend then largely upon milk and practically cow's milk for infant feeding. Other milk is indeed not only good, but very desirable; yet the supply is so limited that it is not within reach of the great masses. We are to-day in that period of infant feeding where an accurate modification of cow's milk is admissible. According to this method the proportion of the essential elements of milk, fat, sugar, proteids, etc., are varied *separately* according to the age and power of digestion of the child under observation. Given a healthy infant who for any reason must be weaned, we start with a milk formula resembling as near as may be that of breast milk, except that it must be lower in proteids, and this for the reason that the young infant has very great difficulty in digesting the casein of cow's milk.

It is by no means claimed that any modification of cow's milk will or can make it identical, as I have said before, with breast milk; but what is claimed is that such modifications approximate breast milk more nearly than any other form of artificial feeding. It also has one advantage over breast feeding, *i.e.,* in that the different elements, fat, sugar or proteids may be easily altered separately in case either may disagree.

We can also state as a fact that if an infant is able to digest properly modified cow's milk, its future nutrition is on safe ground and that no other food of any kind or description will be necessary for its healthy development. This cannot be said of any food on the market.

The majority of cases that will demand our attention along this line, however, will be sick and not healthy infants, which again makes it all the more imperative that each case shall be studied and treated by itself. Therefore the knowledge of percentage feeding *per se* is good for but little if we do not know just what we wish to reach. We must know *why* in infant feeding just as truly as in any branch of therapeutics. We shall find it a good, safe rule to make the formulæ very much weaker than normally called for, particularly is this true of the proteid, which is, as I have said before, the hardest element of the mixture to digest. A good percentage to start with, say in a very young infant three weeks or a month old, would be F. 2, P. 5-10 and S. 5. Of course keeping in mind the normal proportions of percentages of human milk we can readily see that this is not a diet that the child is going to thrive very much on. It is but a tentative one and if it agrees with the child, must soon be increased by easy grades to F. 3 or 3.5, P. .75 or 1 and S. 6, when we shall have a mixture that the child will take and thrive upon for months. Much has been written of late upon progressive feeding. The percentages of human milk do not change as the child grows older, and for myself I have never been able to be convinced that it was a good idea to keep changing the food, making it stronger and stronger as the child grew older. All the indications are met, I think, by increasing the quantity with the age of the child.

The only way that we can judge as to the strength of the food and its utility is by the weight of the child, which should be taken every week and in many cases twice a week.

But we will suppose now that the child does not gain in weight and is suffering more or less from some form of indigestion; what is to be our guide in the changes, if changes there are to be made in our formulæ?

No exact rule can yet be formulated which will be a sure guide as regards the indications by which the fats, proteids and sugars are to be varied, yet experience has given us some general rules upon which we are led to depend:

1. "If the bowel movements are curdy we may take it as an indication of an excess of proteids."
2. "Sour vomiting indicates too much fat."
3. "Stools that are very watery yet without

curds may depend upon too much sugar or too much fat."

4. "Vomiting of hard curdy masses may indicate too much proteids."

5. "Should the child seem to do well on the mixture in every way except it does not gain weight, then the sugar may be too low."

6. "Vomiting may indicate that the child is getting *too large* a quantity of the food."

These rules are by no means absolute, yet we shall find in them sufficient truth that if rightly interpreted will surely guide us among the shoals of Infant Feeding.

We shall find that cutting down the quantity of food given during the hot days will help to lessen very materially the chances of summer troubles. Should they supervene, however, we will do well to cut off all milk and starve the little ones for a day or so. My own habit is to give them only albumin water, which is more to supply water and allay the fears of the anxious parents than anything else.

There is an objection to cow's milk as infant food on the ground of its bacterial content. The germs of diphtheria, scarlet fever, tuberculosis, etc., of course may be a source of great danger, though it is by no means a frequent one; and it is a danger that can be removed entirely, with the proper supervision. There are other germs, however, of no less importance—those that affect the keeping properties of the milk and to some extent no doubt its digestibility. Their presence is constant, varying from a few thousand to many millions, and depends entirely upon the care exercised in the handling of the milk and also upon the time which elapses between leaving the cow and being received by the child. Two methods may be mentioned to get rid of the bacteria in milk, (1) by heat; and (2) by exercising the most scrupulous cleanliness in handling the milk, and shortening the time to the least possible in getting it from the cow to the child.

The sterilization of milk I do not think necessary or desirable. At present I think we shall get better results by heating it to say 150° to 175° F. for 20 or 30 minutes than by using the higher temperatures.

In closing I wish to say that the following seem to be well established both by the experience of the practitioner and of laboratory research in many lands:

1. Breast milk is the best infant food.
2. That no artificial food can or should be trusted which does not contain the essentials of breast milk, viz.: fat, proteids and sugar.
3. That the elements named are to be found only in milk, and cow's milk being the only one available for general use.
4. That cow's milk must be modified because it does not contain the same proportions of the elements named.

This whole field of infant feeding is large and we cannot secure the best results without giving much time and study to it, but if we do so, it will return rich rewards for our efforts.

APPENDICITIS.

BY LEWIS S. BLACKWELL, M.D.,
OF PERTH AMBOY, N. J.

IMPROVED methods of diagnosis and greater accuracy in examinations have elevated appendicitis to the rank of an entity. Toward this goal, the recognition of the need of a higher standard of medical attainment and an extension of time for teaching and study on the part of the leading colleges and universities have contributed their due influence.

The apparently increased frequency of appendicitis to-day is mainly due to the distinction recognized between this disease and cases of typhlitis and peritonitis disclosed by numerous postmortems. In a large number of autopsies, where peritonitis was revealed as the result of perforation and effusion into the peritoneal cavity, in 91 per cent. of the cases it was shown to be due to the presence of appendicitis.

The gravity of this disease and the great mortality caused by it which is about 25 per cent. of all cases, demand the closest scrutiny at its inception, and the application of the highest therapeutic requirements on the part of the medical attendant. While Keen's aphorism, that "the first duty in the case of appendicitis is to call a surgeon," is certainly an indication of wisdom in the light of the possibility of a fatal issue within 48 hours, yet its tendency is to detract from the skill of the physician, and the conservatism of general medicine.

The grand results which have emanated from the introduction of aseptic and antiseptic medication, through the brilliant discoveries of Lister and Koch, have cast a halo of light upon American surgery and enrolled the names of Stimson, Bull and McBurney in the temple of fame. Along this same line of usefulness and distinction, the general practitioner is attacking the microbes in accordance with the accepted theory of modern medicine, and with an inspiration born of ambition is essaying to keep step with his coadjutors in a different branch of philanthropic service.

Aside from the typical symptoms of appendicitis, the diagnosis is materially aided by the fact that about 90 per cent. of all inflammatory affections in the right iliac region are due to catarrh of the appendix. The location of the pain and tenderness in a localized spot recognized as McBurney's point, and generally accepted as pathognomonic, constitutes the most salient factor in the diagnosis.

The symptomatology and therapeutics of the following case which came under my care in this city, chiefly represent the classical features of appendicitis in accord with the views of modern writers and teachers.

On June 5, 1902, I was called to visit John K., aged twenty-one years, a fitter of forms for a terra cotta company. I found him complaining of considerable pain and tenderness in the upper portion of the right iliac region, with a yellow fur on the tongue and a temperature of 102½° F.

The treatment pursued consisted in the administration of fractional doses of calomel (1-10 gr.) every hour until the bowels were moved; ¼ gr. of morphia *pro. re nata* to hold the pain in abeyance, and applications of ice to the affected part. The pain responded much better to the cold than to the opiate, and at the end of 48 hours, had about subsided.

While considerable antipathy to the use of opium exists in consequence of its tendency to mask the symptoms, and the same objection, although to a less degree, obtains to its administration in large doses in the treatment of peritonitis, so strongly advocated by Dr. Alonzo Clark, and which has rendered his name illustrious in the annals of medicine, the utility of opium in cases of intestinal catarrh when the mucous membrane is involved, naturally suggests its efficacy in appendicitis in which both the mucous and serous surfaces are implicated.

The mercurial administered in this case for its laxative effect may possess an alterative and antiphlogistic action in accord with the views advanced four or five decades ago by that distinguished writer and teacher of the University of Pennsylvania, Dr. Geo. B. Wood.

The recognition of the fact that one half of the cases of appendicitis recover under medicinal treatment, should, in a measure, lead to careful deliberation tending to restrict within legitimate bounds the resort to operative procedure so much in vogue at the present day.

ALBARGIN OR GELATOSE SILVER IN THE TREATMENT OF GONORRHEA.

BY HERMANN G. KLOTZ, M.D.,

OF NEW YORK.

It is hardly open to doubt or reasonable dispute, that the salts of silver exhibit the strongest and most reliable influence in destroying the gonococcus Neisser, which is now generally acknowledged to be the immediate cause of gonorrhea. Nitrate of silver, the oldest and original representative of silver salts applied to the treatment of gonorrhea, unfortunately is too irritating in solutions of a strength sufficient to destroy or materially affect the gonococci, to be used in the more acute stages of the disease, although Von Sehlen* proved in 1894 that its solutions, attenuated according to the conditions of the mucous membrane, may be safely employed even during the early and acute period. The problem therefore became, according to Neisser,† "to find a preparation which, without an increase of inflammation and suppuration, would efficiently destroy the gonococci." For some time it has been the endeavor of chemists and manufacturers to produce a combination of silver which would fulfil these conditions. Argentamin, argonin, itrol, largin and protargol have been the principal products of these efforts and all have to a certain extent given satisfaction, but not without some drawbacks. Besides the nitrate of silver, which after many trials, I still consider the most reliable of all the salts, I have personal experience only with argonin and protargol; both have been used with quite satisfactory results. Argonin appears to be the least irritating. Protargol has the advantage of being readily soluble even in cold water, and of furnishing a solution durable at least for some time. Argonin and protargol are combinations of silver, not like argentamin of the nitrate, and contain 4.7 per cent. resp., 8 per cent. of the metal. Protargol solutions remain unchanged; neither albumin, diluted chloride of sodium, diluted muriatic acid, nor soda hydrate form a precipitate; it is therefore more able to sustain a prolonged influence on the mucous membrane and Neisser has recommended keeping it in the urethra up to 30 minutes. The same author has claimed that this very chemical stability of protargol offers a greater possibility for unlimited penetration into the tissues than the other silver salts. Jadassohn, on the one side however, has claimed that the precipitation of silver by albumen and the chlorides not only is quite insignificant, but may actually increase the effectiveness of the remedy by spoiling the soil for the development of the cocci. On the other side the same author has pointed out, that in the albuminoid combinations, silver is "burdened with so large a molecule that its penetrating power must be greatly reduced by the same." There is as far as I know no positive experimental proof extant, that solutions of protargol really penetrate into the tissue or exhibit considerable power of dialyzing through animal membranes. Nevertheless we sometimes observe that certain remedies accomplish favorable results in practice which can not well be explained by chemical or physical laws, and that we can not always draw absolute conclusions for the practice from laboratory experiments. Nevertheless, the albuminoid combinations of silver have certainly been found quite useful and beneficial in the treatment of gonorrhea, but not to a degree unable to be improved upon. Therefore new preparations which are offered with the promise or prospect of even better results, deserve our consideration and a careful trial in practice.

Sometime in March, 1901, I received from the Farbwerke, vormals Meister Lucius and Bruning of Höchst-am-Main, samples of a new preparation of silver called Albargin and a reprint from the *Therapie der Gegenwart,* March, 1901, of a report by Dr. Bornemann, assistant to Dr. Max Joseph's Poliklinik in Berlin, on his experience with this new remedy during the last year, during which it was applied in 60 cases of gonorrhea in different stages.

According to the statements of its inventor, Dr. Liebrecht, albargin is a compound of the nitrate of silver with gelatose, a product of the dissociation of gelatine; it contains 15 per cent. of silver nitrate or with 63.5 per cent. silver for the nitrate, 9.52 per cent. of silver against 8.3 per cent. in protargol. Albargin forms a yellowish or light fawn-colored, rather gross powder of very light weight, is slightly sticky and dissolves

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*Monatshefte f. prakt. Dermatol, 1894, XVII, 596.
†Dermatolog. Centralblatt, I. I.

easily in water of any temperature. A 10-per-cent. solution in distilled water is of a light brown color and kept in an opaque bottle remains clear and apparently unchanged for weeks, perhaps deepening somewhat in color. The solutions of albargin are thin liquids still slightly viscid, though much less than those of argonin and protargol, but sufficiently to lubricate an instrument enough for introduction in the urethra. Bornemann states that the reaction of the solutions is neutral and that special silver reagents, such as dilute hydrochloric acid, salt solution, soda lye, etc., show that the silver in albargin is "masked like in the albuminoids, but not in so stable a manner." A solution could be mixed with a solution of bichloride of mercury 1.10,000 without decomposition and remained permanent. He also reports on experiments made by Dr. Liebreich on the power of dialyzing through animal membranes, which seem to prove a considerable superiority over other silver salts. Bornemann states that albargin destroys the gonococci without irritation of the tissues wherever it can reach them. He does not mention, however, at which strength the destructive power against the cocci becomes manifest, nor does it appear that any methodical experiments have ever been made to test this gonococcicide power. Under these circumstances I intend to refer rather to my practical experience with albargin and to draw conclusions from that only. To practically test the effectiveness of a remedy on the gonococci and on the symptoms of gonorrhea, all methods which leave the execution of the therapeutical measures entirely or to a large degree in the hands of the patients themselves, are, in my opinion, more or less unreliable. The more the treatment is applied by the physician himself, the better will he be able to judge of the results. In the majority of cases therefore, in which I have used albargin, I have made the more important injections myself, following in principle a method originally recommended by Von Sehlen, which I have recently fully described (*Archiv f. Dermatologie,* Vol. LX, 3, p. 399). Under it I use the strongest possible silver solutions, which in my judgment the condition of the mucous membrane will warrant. These injections are not made oftener than once in 24 hours, while the patient himself in the intervals uses a mild astringent solution. This method allows of the application of much stronger solutions than could be used in the ordinary way by the patients themselves. At first I tried milder solutions, but soon found that I could safely use one-half to two-per-cent., and more recently five-per-cent. solutions of albargin without injury to the urethra. To test a new remedy it is further desirable that the cases be of recent infection and that the remedy be put to the test before any other treatment has been applied. Unfortunately I have not been able to try albargin under such circumstances on a case of primary infection with gonorrhea, which would afford the best chance for a thorough test of its value. But the opportunity of seeing such patients at an early stage is a rare one. Since the middle of April, 1901, I began to employ albargin in the treatment of gonorrhea in private practice. I have used it extensively mostly under conditions under which up to that time I had usually applied protargol. A number of cases, particularly the majority of those of a more chronic character, were not suitable for the formation of certain conclusions in regard to its effectiveness; in most instances of this class it was only temporarily employed and without much influence on the course and termination of the disease. To report on my experience with the new remedy I shall refer to 26 cases only, not selected, but in which albargin was the principal and in most cases the only combination of silver applied. It is hardly necessary to state that invariably a careful microscopical examination of the secretion of the urethra for gonococci was made immediately before treatment was commenced, that in all cases typical forms of the gonococcus were demonstrated beyond doubt and that microscopical examinations were repeated as long as material for the same could be obtained. The majority of the cases (21) were apparently new infections with gonorrhea in patients who had been affected with the disease on previous occasions; most of them were well known to me, having been under my treatment before, so that I was reasonably, in most instances almost absolutely sure that I had to do with new infections, not simply with exacerbations of chronic or latent affections. Two of the cases I class as subacute and three as chronic.

From the 21 recent cases, 15 came under my observation, within 24 to 36 hours after any suspicious symptoms had been noticed by the patients, the remaining seven between three and fourteen days after the outbreak of the disease. In the former cases as a rule the discharge was not copious, the local symptoms of inflammation (swelling and redness of the lips of the meatus) were very slight or entirely absent; subjective symptoms were usually absolutely wanting or only a slight burning during micturition was mentioned. The second portion of the urine was perfectly clear and free from threads, etc., in every instance; the first voided portion was also clear in the majority, here and there with small filaments as the residue of former affections, only in a few cases it was somewhat cloudy. Out of the 15 patients, 11 were discharged as cured within eight days, and although no further treatment of any kind was employed after that, they all remained well for weeks afterward. Sometimes the discharge stopped immediately after the first injection of albargin, so that no further examination for cocci could be made, but the treatment was continued to accomplish a sure and permanent cure. It is very likely that the gonococci were completely destroyed or removed on the first or second day; that is more rapidly than my records will indicate. I therefore have not made the attempt to exactly locate the date of the final disappearance of the gonococci, as Bornemann has done. One patient did not return after two injections of a two-per-cent. albargin solution made on two consecutive days, but as I had occasion to see him within two weeks, he being also under treatment for syphilis, I had opportunity to convince myself of the absence of all signs of gonorrhea. The average number of injections made for these 11 patients was actually four; one received two, two only three, five had four, and three had five injections each. They were distributed after the first day: 10 on the second, 10 on the third, one on the fourth, six on the fifth, two on the sixth, and three on the eighth day of the period of treatment. Usually before the last injection the patient had for 24 or 48 hours dropped the astringent solution, usually consisting of sulphate of zinc, acetate of lead and boric acid, and after the last albargin injection no further treatment was applied. In the four remaining cases, where the patients called immediately after the appearance of the discharge, the results were not so satisfactory, and it was necessary not only to extend the albargin injections for several weeks, but to resort to other methods of treatment before a cure could be effected. The acute symptoms, however, almost immediately subsided or did not develop greater virulence, but the discharge and the gonococci failed to disappear for good. In all the cases within a few weeks an urethroscopic examination could be made in order to ascertain the cause of the protracted discharge and in all alterations of the mucous membrane were found, undoubtedly the residue of former attacks: circumscribed patches of chronic inflammation, widened and congested lacunæ Morgagni, beginning stricture, etc. After the restoration of normal conditions, the gonococci, which apparently had found a favorable soil on the diseased regions, would promptly disappear. One patient had suffered from severe gonorrheal rheumatism with his last attack, but although the gonococci showed considerable resistance, no symptoms of rheumatism developed. In none of the cases did extension of the inflammation to the posterior urethra occur, or other complications like epididymitis, bladder trouble, etc.

In the seven cases, in which the commencement of treatment had been delayed, although in several of them astringent injections and internal remedies had been used, a rapid diminution of the discharge and of the inflammatory symptoms, as well as a great reduction in the number of gonococci found in the specimens, was always accomplished, but a perfect cure was not so quickly obtained in but three cases. The first patient who consulted me four days after he had noticed the first signs of gonorrhea was free from discharge after the first injection of albargin, but on the fourth day a trace of discharge containing a few gonococci was obtained, the same on the seventh day. On the 10th day there was a slight discharge free from gonococci, on the 14th and 19th days neither discharge nor cocci could be detected, so that the patient was apparently cured ten days after the albargin treatment had been inaugurated. In the second case a slight oozing from the urethra existed for six days; after the first injection it disappeared; six days later a specimen of mucous discharge was found free from gonococci, but on the 11th, after drinking beer, and on the 16th after coitus a few gonococci were found, but none on the next day after an injection. On the 24th day a trace of discharge gave negative results as to cocci. Four weeks later after a long trip on the bicycle, there suddenly appeared a discharge which, however, showed no gonococci. The third patient had previously been under my treatment for a chronic urethritis with stricture, which extended with some intermissions for over a year; at no time within this period had any gonococci been found. He had lately noticed a slight discharge which disappeared within four days under the application of some astringent injection. When it again showed itself five days later, distinct gonococci were found. The injections of albargin could not be made oftener than every four days, but in the intervals he used himself a two-tenths per cent. solution of the same drug. After four days no discharge was present, and after seven days a very slight cloudiness of the first portion of the urine was the only unfavorable symptom. In the sediment obtained by centrifugation no gonococci were found, but the treatment was continued for one week longer. The fourth patient came three days after the outbreak of the symptoms, but could not attend very regularly, still on the fourth and seventh day after the first injection, no discharge could be obtained for examination, but on the 11th day a few gonococci were found. In the fifth case, after the well-developed discharge had almost disappeared, which was present on the 12th day after its appearance, a stricture of the anterior urethra was found, which required a somewhat extended treatment. In none of these five cases did the posterior urethra become affected, nor did other complications arise, but the two remaining ones showed symptoms of posterior urethritis from the beginning; besides both had very narrow meatus and could not attend regularly, so that a cure was obtained only after longer treatment.

The two cases of subacute gonorrhea gave very satisfactory results. One patient had been treated elsewhere for his third gonorrhea during three months, when I found a slight discharge with large numbers of typical gonococci; second portion of urine clear, first cloudy; injections of one per cent. and two per cent. of albargin were followed by moderate burning. The patient continued an injection of permanganate of potassium, which he had previously used without any benefit and reported three days later that he had not seen any discharge for over 24 hours. On the sixth day, after 48 hours without any injection, a slight drop of mucous discharge was found, which consisted principally of epithelial cells without any cocci. On the 10th day after drinking beer and considerable exercise in rowing the trace of discharge found showed only epithelia and all treatment was stopped. The second patient had been treated for almost six weeks for gonorrhea, which had quickly extended to the posterior urethra. Then deep injections of two-per-cent. albargin were commenced and repeated every three days supplemented by injections of permanganate of potassium. Although after the ninth day no discharge could be obtained, the treatment was extended for some time.

Finally, I shall briefly mention three cases of chronic gonorrhea, in which, after more or less extended treatment, mostly local, by other methods, injections of one-per-cent. and two-per-cent. albargin solutions were resorted to in order to finally get rid of the obstinately persisting gonococci. Patient No. 1 had been under my care for almost a year; a moderate degree of hypospadia, a narrow meatus with several blind channels around the urethra opening and a stricture of the bulbous urethra had offered unusual difficulties. Finally ofter four deep injections with two-per-cent. albargin at intervals of from four to six days, the gonococci disappeared. The second patient after having been treated elsewhere for over a year with his first gonorrhea, still had copious discharge with numerous gonococci when he consulted me. The meatus was narrow and irregularly formed, so that it required several operations to obtain a satisfactory orifice. While the urethra was being kept open by the introduction of sounds, injections of two-per-cent. albargin were applied once a week without any other treatment. After the wound had finally healed, no discharge could be seen; the few filaments found in the perfectly clear urine contained a small number of pus cells but no cocci. A similar result was accomplished in the third case by the albargin injection. The gonococci disappeared in a comparatively short time; after, by various other methods of treatment, the mucous membrane had been reduced to normal conditions and the problem restricted simply to the extermination of the obstinate parasites.

Before drawing any conclusions from the facts presented here, it is but fair to state that previously to the employment of albargin, I had seen similar results under similar circumstances from applications of nitrate of silver, argonin and protargol; to prove the superiority of the one over the other by exact numbers and complicated statistics would hardly be possible, nor, even if reliably obtained, be very profitable. To a certain extent we will come under the influence of impressions in regard to the value of the different remedies which will guide us in giving preference to the one or the other under proper conditions.

To judge of the merits of albargin, it is necessary to consider how far it comes near the ideal standard set up by Neisser. In the absence of methodical laboratory experiments, it certainly seems justifiable by my experience to maintain that the urethra can be delivered from gonococci, with which it had become infected, by solutions of albargin in a comparatively short time. Whether the cocci are destroyed or rendered inert, etc., I do not claim to know, but the fact remains that under favorable circumstances they cannot be found any longer in the secretions after a brief period. I have no doubt that, in some of the recent cases, the urethra was actually free from gonococci after the first injection with albargin; as I did not wish to risk a favorable result for the patient, by stopping the treatment too early for the sake of experiment, I repeated the injections. Such a decided disappearance of the symptoms I have hardly seen after the use of the other salts. In the cases referred to, the parasites had not had much time to penetrate into the deeper strata of the tissues, therefore it did not require a great penetrating power to reach them. However, the good results obtained in the subacute and chronic cases compare very favorably with those from other remedies and certainly suggest a sufficiently strong power of penetrating into the tissues, since at these later stages of the disease, you would expect the cocci located somewhat beneath the surface of the mucous membrane. Heretofore I have trusted more to the nitrate for reaching into the deeper strata in spite of the precipitations of albumin and chlorides.

In regard to the irritating influence of albargin on the mucous membrane, I can assure that an injection of one to two in a thousand, as recommended by Bornemann for the use of patients, does not cause either pain or increase of secretion, unless it is continued at frequent intervals for some time. For injections of stronger solutions, from one-half to one and two per cent. I am not willing to assume any responsibility unless made as recommended in my recent paper. In my hands they have never produced any symptoms which would have made them appear dangerous or disadvantageous. They usually cause a more or less intense burning sensation, sometimes even a severe one, but of short duration; as a rule the pain ceases before the patient leaves the office. These injections are usually followed by an increased, rather heavy discharge, partially formed by the remnants of the injected fluid, which diminishes after the first and usually disappears after the second micturition. The first injection of an astringent is sometimes quite painful, at least for a short period. However, in the morning all these symptoms have vanished and generally after the second and the following injections, pain and burning sensation are insignificant or entirely absent, and during the continuance of the treatment the patient, even if not so readily cured, is almost free from any disagreeable symptoms. "Chordee" is a condition which I hardly see unless some unavoidable complication arises. I therefore do not hesitate to state that albargin comes very near to Neisser's ideal of an anti-gonorrheal gonococcicide remedy. Whether it has any influence on nongonorrheal urethritis and on the pathological conditions of the mucous membrane which are the results and remnants of gonorrhea, I am not yet able to answer for want of sufficient experience. In addition I can say that albargin is clean to handle, does not stain the fingers at all and the clothes but very little, and that it is not expensive, not only on account of the actual price being lower, but also because it is generally prescribed in comparatively much smaller quantities. After all that has been stated, albargin deserves a trial from those who are particularly interested in the treatment of gonorrhea.

THE INFLUENCE OF ALCOHOLIC HEREDITY IN DISEASES OF CHILDREN.

BY T. D. CROTHERS, M.D.,
OF HARTFORD, CONN.
SUPERINTENDENT WALNUT LODGE HOSPITAL.

A. B. CAME under my care for treatment for periodic inebriety. He had used wine on the table at meals for 20 years; for 10 years past he had drunk in paroxysms. His wife also used wine on the table, and during pregnancy and lactation had used both beer and wine freely. He had two children, one a girl of eight years, the other a boy five years old, both invalids, who had been under constant medical care from infancy, the diagnosis being scrofula and general anemia.

Both these children were of pale and delicate appearance, extremely excitable and nervous. They had continuous irritation of the stomach, from an unrestricted diet of all kinds of foods and drinks, except wine and beer; were very passionate at the slightest opposition to their wishes, and after a period of rage would be greatly exhausted and have a distinct fever for a day or more. The girl had attacks of religious emotion, in which she manifested great melancholy and sorrow for her sins, and asked the prayers of all persons with whom she came in contact; at other times she was precociously bright, and irritable at any opposition to her wishes.

The family physician had no faith in heredity, and treated these various conditions as so many symptoms of threatened organic disorders which his skill and remedies prevented from going farther. Both had suffered from rubeola and scarlatina, and were supposed to have never fully recovered. Bronchitis, enteritis, gastritis, neuritis, and various heart diseases were constantly threatening, and as constantly averted. Finally, the death of this physician brought a new man upon the scene, who recognized the alcoholic heredity of these cases, and ordered them to the country where the diet was restricted, and enforced exercise outdoors, and frequent bathing when it could be carried out.

These children had marked nerve and brain instability, with low vitality, and neurotic tendencies very likely to develop into insanity, inebriety, or any other form of nerve and brain degeneration.

A physician wrote me that he had given tincture cinchona to a neurotic child of one year of age, for slight fever which resembled malaria. In a short time the child would cry for the medicine, and only would be satisfied for a little time after it was given, on one occasion it took a two-ounce mixture of this drug. He changed to other tonics, but found that nothing would satisfy the child but tinctures. The child was found to have had an alcoholic mother, who died soon after its birth, and the alcohol in the tinctures aroused some organic memory which had been inherited.

In private practice, some years ago, I treated a little boy for over five years, for the most confusing and varied disorders and diseases that it was possible to have; he recovered from one disorder only to be prostrated with another. None of them were well defined or clear, and great difference of opinion prevailed among the numerous medical men who were called in consultation. At puberty this boy became a pronounced dipsomaniac, suddenly, and without any special temptation. Years after he came under my care, was a chronic case. From a study of his history it was ascertained that his father was an inebriate, and died before the patient was born. Here was an alcoholic heredity, which had escaped notice, and where the alcoholic neurotic symptoms were not understood.

I think that we may confidently expect that in the practice of medicine in the future such cases will be treated and the alcoholic or insane predisposition will be changed and suppressed. I have seen children, from infancy up to puberty, upon whom alcohol in any form and in small quantities acted as a hypnotic; in some cases no other medicine could be tolerated, in such cases alcoholic heredity was present, in others it was not clear.

In the study of the early history of inebriates, a great variety of diseases common to childhood appear, and seem to have been more intense than in other children. Such cases apparently suffer more severely than others from nutrient disorders, shocks, and traumatism; they are freighted with some heredity or predisposition to particular forms of degeneration; the organism has received a certain bias, from which it cannot escape. Alcohol, of all other drugs, seems most potent to impress cell growth and function.

No fact is more firmly established than that alcoholic ancestors will transmit to their descendants a defective brain and nerve power. The form and shape of this defect and its manifestations will vary widely. In many cases it may not be prominent until after the higher peripheral brain has reached a certain development, especially in the growth of the emotional and inhibitory centers. In others this defect is seen in infancy, in hyperesthesia of the senses, and nutrient disturbances. Some children manifest irritation at all sounds, and changes of light and surroundings, by continuous crying; the skin or alimentary canal is also very sensitive, and various skin disorders and nutrient troubles follow. Low powers of vitality with slow, irregular growth are common. This may continue for years, then gradually disappear, and reappear at puberty, or later, in some distinct form of degeneration. Sometimes a marked neurasthenia and anemia appear in early life and continue up to puberty, then break out into disease, or develop into some obscure malady.

Another class of children are noted who come from alcoholic ancestors. By their precocious development of brain and nerve force, they exhibit powers of brain receptivity and instability that are called genius, but which early give way to some disease or form of nerve degeneration from unknown causes. Inebriety, insanity, or both, are very common sequels. Alcohol or opium in almost any form is always a grateful remedy, and is demanded in many instances by the patient. The use of bitters that contain large quantities of spirits is also very popular, and an unconscious organic memory is awakened, rarely dying out.

In some children this craving for spirits is manifest very early. A case of this kind was brought to my notice by Dr. Smith of New York, where a two-months'-old infant could only be quieted by a few drops of spirits. Its taste was so pronounced that it would stop nursing at the sight of the person who gave it spirits and cry until it was gratified. Fortunately such instances are not common; but the abnormal tastes of children, and their extreme sensitiveness or obtuseness to sensory impressions, and low powers of vitality and recuperation, are often clear symptoms of an alcoholic impression from ancestors.

This alcoholic heredity will be seen in children who manifest extremes of activity, particularly where there is a tendency to the sudden liberation of nerve energies, as in violent passion (grief or joy) or in work, play, or study, which is followed by extreme prostration. The child is said to be sullen, morose, or melancholy, then suddenly manifest the other extremes, indicating a great instability of brain cells and functional control. Its life seems to be threatened with fevers, prostrations, and inanitions, accompanied with mental irritations and neuralgias that tax severely the skill of the physician. These conditions may follow other heredities, but they always point to a degree of nerve and brain degeneration or retarded development, and defective coordination, that must be recognized in the treatment.

In all cases where alcoholic ancestors, even back to the second generation, can be traced, there are certain predispositions which must be considered in the treatment:

First.—A tendency to exhaustion from feeble vitality, and low power of restoration. Tonics and nutriments that have a direct stimulant action on the brain should not be used, such as alcohol and opium and meat broths. These remedies have a tendency to still further exhaust the vital forces, paralyzing the nerve centers and increasing the carbonaceous matters of the system.

Second.—An instability of cell and nerve function exists with strong predisposition to develop into some particular form of degeneration, which is practically an exhaustion of the higher brain centers with craving for relief. All stimulants and remedies which act on the brain centers increase the debility.

Third.—There is a special affinity for all nerve stimulants or narcotics by the higher brain centers. Their use constantly interferes with the natural development of brain energy from food. Thus alcohol, tea, coffee, and other substances have a peculiar delusive action.

From these facts it will be obvious that the diseases of alcoholic parentage are far more complex, and require greater care. In addition to whatever disease they suffer from there is always neurasthenia and defective control of the brain centers, which may come into prominence at any moment, from causes both known and unknown. This hereditary bias and neurotic instability enters into all cases.

The general principles which should govern in the treatment may be grouped as follows:

1. No form of alcohol is safe, and narcotics of all kinds should be used with great care.

2. The diet should not include meats of any kind, because of their stimulating character; while meats contain much food force, they act as stimulants to a brain unstable and exhausted, and increase the peril of nervous disease. The pathological tendency of all these cases is to become meat eaters and alcohol takers, hence the diet should be carried out with military regularity.

3. The hygienic treatment is also of the greatest importance; every means and measure which can build up the system, and avoid brain and nerve stimulation, is required.

4. Cases of this character should be guarded against every possible extreme, both in the surroundings and physical conditions that are under the control of the physician. The tendency of all energy and nerve force is to pass off in explosions, which should be counteracted; the diseases from which they suffer show this tendency to concentrate and become intensified in certain directions, also to manifest distinct exacerbations. Finally, the fact of an alcoholic heredity in diseases of children that we are called upon to treat, gives a wider therapeutical range of possibilities, both in direct and Preventive Medicine.

Recent studies of alcoholic cases show that over 70 per cent. are directly inherited. If this is confirmed by later studies, the treatment of inebriety will in the future begin in infancy, and the higher science and art of medicine will win its greatest triumphs along the line of prevention.

THE EARLY DIAGNOSIS OF INTUSSUSCEPTION.

BY F. HUBER, M.D.,
OF NEW YORK.

UNDER the caption of Medical Progress (MEDICAL NEWS, Sept. 13, 1902), in the résumé of an article entitled "Spontaneous Reduction of Acute Intussusception," the following appears;

"The diagnosis of this affection is always one of great difficulty because the condition occurs so frequently in children who cannot aid the physician by giving a good history. Even after the condition has been recognized, treatment is a question of extreme difficulty because the patient is usually so much reduced in strength."

The difficulties in diagnosis, particularly early diagnosis, even though the child cannot give a history, are not great, provided the possible occurrence of intussusception is kept in mind. An early diagnosis is moreover imperative, for a prompt recognition of the condition improves the chances of the little patient.

The onset of the trouble is usually sudden; in children with lowered vitality the progress may be insidious. Pains, colicky in character and recurring in paroxysms, repeated vomiting and bloody stools form a symptom complex sufficiently characteristic of the disorder. The presence of a tumor, particularly if "sausage-shaped," is conclusive. More or less prostration or collapse and change in facies of the patient are noted. The temperature at the outset is low or even subnormal; later on sepsis, gangrene or peritonitis give rise to more or less fever.

One or more of the symptoms associated with the disease may be absent or may not appear until late. Pain however is striking. It appears early, is sudden in its onset, of great intensity and attended with screaming-spells and other evidences of acute suffering. It is moreover paroxysmal in character with shorter or longer intervals of relief. In a case seen recently the infant, less than seven months old, would play and smile between the attacks, indeed the transition from the contented state to one of screaming and suffering was surprising. The characteristic colic is a diagnostic sign of the greatest importance, and as it is usually the first and earliest feature, its import ought to be remembered. The abdomen when exposed will as a rule be found to be relaxed and soft in the beginning.

Spasmodic contractions are evident. Now and then a swelling can be made out, particularly in the right iliac fossa, due to the greater prominence of the intussusception during the paroxysm, even at an early date. To quote from an English article: "In every case of acute colic in infants, therefore, the question of intussusception should be considered, and the examination directed to its possible discovery. A recognition of its peculiar features leads to an earlier diagnosis and therefore early efficient treatment."

Soon vomiting sets in, distressing in character, followed shortly by passage of blood and mucus (without fecal matter) or a mass resembling currant jelly. In case our suspicions are aroused by "screaming spells," etc., an early digital examination per rectum may be followed by a bloody discharge hours before it would otherwise appear. In the early stage the blood is bright in color, later on it becomes darker, finally clots may be passed and the abnormal stool becomes fetid in character or the odor is gangrenous.

In some cases even after a few hours a fulness may be felt in the right iliac fossa, for a large proportion of cases are of the iliocecal variety. The rectal tumor is as a rule a late symptom. In other instances nothing abnormal can be detected in the interval between the attacks, even though the abdomen be carefully palpated under narcosis—examined during the paroxysm, a prominence or tumor may be made out at the site of the lesion, due apparently to its erectile character.

To wait for the so-called "sausage-shaped tumor" or the mass in the rectum, is in many instances a loss of valuable time and simply jeopardizes the patient's chances of recovery. In several cases occurring during the past six months the diagnosis was made within a few hours after the onset by the characteristic pains, vomiting and change in facies with more or less general depression. In one case the bloody discharge did not appear until an irrigation was made, in another a digital examination of the rectum was followed by the appearance of blood.

Intussusception can no longer be regarded as a borderland condition, it is a surgical disease from its very onset. After the first few hours no time should be lost in attempting reduction by inflation with air or a resort to hydrostatic pressure. The case should be referred to a skilled surgeon, one thoroughly familiar with abdominal work and at the same time a rapid operator.

Within the past few months it has been my good fortune to be present at two operations. In the first instance the symptoms had lasted less than six hours, in the other 18 hours had elapsed. In both cases the operation including the removal of the appendix did not take more than 15 minutes. Both cases recovered.

To recapitulate, the pain or rather the "characteristic colic" is the earliest signal, then we notice more or less change in the facies of the child, vomiting sets in followed by the escape from the rectum of blood or bloody mucus. More or less collapse is observed. A swelling or rather fulness is noted in the right iliac fossa, particularly during the colicy attacks.

This symptom-complex is characteristic and if the possible occurrence of intussusception be kept in mind, an early diagnosis can be made without difficulty.

MEDICAL PROGRESS.

PHYSIOLOGY.

Contributions to the Knowledge of Diuresis.—In a series of interesting papers, W. Filehue, H. Biberfeld, W. Ruschhaupt, C. Pototzky, and W. Ercklentz (Pflüger's Archiv f. Physiol., Sept. 17, 1902), state the results of their experimental studies in the domain of medicinal diuresis. In testing its capacity to absorb water, they found that the cortex of a dog's kidney, kept in a 1.2 to 1.5 per cent. salt solution for half an hour, was able to absorb water, but when kept in a 1.8 per cent. solution it lost water to the extent of 1 to 2 per cent. of its initial weight. In a more marked degree is the medullary portion of the kidney capable of absorbing water from even a more concentrated solution of sodium chloride, which circumstance points to the probability that during life under various circumstances a highly concentrated urine passes through the renal medulla. Two salts simultaneously administered have no influence upon each other. The absolute quantity of each eliminated by the kidneys is the same as if each were separately given to the animal. During the diuresis produced by a certain salt in an animal already abundantly fed with another salt, a greater absolute quantity of the latter will be eliminated. This apparent contradiction between the two latter results depends perhaps upon the peculiar exchange of water and salt between blood, tissues and lymph. The concentration in common salt of the urine in animals poor in salt is increased under the influence of diuresis. The administration of poisons that have a damaging effect upon the kidney, such as bichromate of potash, sodium cantharidatum, corrosive sublimate, aloin and phloridzin, causes an increase in the quantity of urine, and a rise in the salt concentration. In contrast to these poisons is the action of water, the diuresis caused by it has a markedly diminished saline concentration. The organism is therefore capable, in spite of powerful diuresis, of saving and holding back its sodium chloride. If the nerves of the left kidney be divided, the urinary secretion of the latter will be less, while the saline concentration will be greater than that of the normal kidney. These relations are reversed when the determination is made during the height of narcosis. In all operations on the capsule of the kidney it has been observed that the intracapsular renal tissue is always under a certain pressure; for wounds of the capsule result in prolapse of the kidney parenchyma. Decapsulation of the kidney results in an increased secretion of urine, of greater dilution than before. The secretion of the normal kidney is unchanged. Inasmuch as division of the renal nerves and decapsulation have opposite effects upon the secretion of urine, an experiment was undertaken to determine which of these effects is the stronger. Simultaneous secretion of the nerves and decapsulation resulted in a greater secretion of urine.

Dyspnea and Asphyxia.—The search for the normal stimulus of the respiratory center, has, according to F. Marés (Pflüger's Archiv, Sept. 17, 1902), led to two hypotheses, one of them holding that oxygen is the stimulus and the other, that carbon dioxide, is the normal excitant of this vital center. Both deficiency of oxygen and superfluity of carbonic acid have been recognized as causes of disturbances of the respiration. The majority of investigators, however, have recognized in carbon dioxide the normal stimulus of respiration, response to which stimulus depends upon the excitability of the respiratory center; this excitability is dependent upon the oxygen content of the blood. The asphyctic manifestations following total deprivation of oxygen have a typical course. In the respiration of an atmosphere of nitrogen, there is, during the first few minutes a deepening and slowing of the respiratory movements. This initial dyspnea is of short duration, for the respirations soon become very shallow and finally disappear altogether, there follows total apnea, the so-called asphyctic "preterminal respiratory pause." The curve of blood-pressure shows, parallel with the appearance of dyspnea, a steep and considerable rise, associated in the beginning with an unchanged, later with a diminished frequency of pulse. The above phenomena belonging to the "stage of irritation" are terminated by a severe chronic convulsion, of variable degree and duration, which sometimes, especially after repeated asphyxia, can be entirely wanting. Following the short "stage of irritation" there occurs the stage of general immobility; the convulsion suddenly ceases, the respiratory movements are suspended, the cardiac pulsation is slowed, and frequently ceases entirely for over a minute; the blood-pressure sinks nearly to zero. This is the real asphyctic condition. The complete cessation of respiration or the so-called "preterminal" apnea goes hand in hand with the total suspension of the heart-beat. Cardiac inhibition in asphyxia is the result of stimulation of the vagus center, and is regarded as a protective mechanism, as a purposeful reaction of the organism against the effects of asphyxia. The modus operandi of this protective mechanism has been variously explained, one theory holding that the economizing of the work of the heart permits it to withstand considerably longer the effects of asphyxia. An hypothesis has been advanced that the effects of asphyxia are to be attributed to epinephrin, which during oxygen starvation accumulates in the blood. The extract of the suprarenals is known to cause increased blood-pressure, retardation of pulse and diminution of depth of breathing. Normally the suprarenal secretion is rapidly oxidized in the blood; should however poverty of oxygen occur, this secretion is accumulated and causes the characteristic symptoms of asphyxia. The fear that carbon dioxide, when increased to a slight extent in the atmosphere, is a deadly poison, seems to be widely entertained and greatly exaggerated. Indeed the blood can tolerate large quantities of this gas, so much as 56 per cent., which may occur when an animal is made to breathe an atmosphere containing large quantities of carbon dioxide. The blood can as readily get rid of this superfluity as it can permit the latter to accumulate. Moreover a surplus of carbon dioxide can be tolerated for a much longer time than a dearth of oxygen. The carbon dioxide content of the air can be increased to eight to 10 per cent. without causing any marked difficulties. The toxic action of this gas is only noticeable after large doses, when it exerts a paralytic effect upon the heart. According to Benedicenti and Treves carbonic acid gas first stimulates the entire nervous system, later causes anesthesia and paralysis; the medulla oblongata is particularly susceptible to it, as is shown by the convulsions and the increase in the depth and frequency of respiration. It paralyzes the heart directly without the intervention of the nervous system. More weighty than that of a distinct metabolic product is the physiological significance of carbonic acid. In the arterial blood of a hibernating marmot Dubois found an increase of 76 per cent. in carbon dioxide, which in the course of the animal's awakening rapidly decreases. Now, this gas has just the property of decreasing the respiration and the circulation, of lowering the body temperature, and of producing anesthesia and sleep. Both natural sleep and hibernation are the result of carbon dioxide autonarcosis. If the quantity of this gas oversteps a certain limit, it causes acceleration of the respiration and the circulation and thereby cessation of sleep. It acts as an internal regulator of the animal heat so far as it influences the production of heat; externally it affects the loss of heat by acting upon the circulation and the peripheral vessels. As a product of muscular activity by which heat is produced, carbon dioxide tends to restrain this work, so that the muscle contains in itself an automatic inhibiting mechanism whereby hyperthermia is prevented.

The Behavior of Glycogen in Boiling Caustic Potash.—That glycogen can be boiled for many hours in very strong caustic potash without being decomposed was the surprising result obtained by E. Pflüger (Pflüger's Archiv, Oct. 7, 1902). From this one would conclude that a weak solution of potassium hydroxide would have no effect on glycogen, but this conclusion is not warranted, since hitherto all attempts to bring about the decomposition of glycogen have succeeded through the use of solutions of caustic potash of the strength of from one to two per cent.

The Glycogen Content of the Skeleton.—All parts of the skeleton, according to M. Händel (Pflüger's Archiv, Oct. 7, 1902), contain glycogen, which may be extracted by means of a solution of caustic potash. From this by the addition of alcohol, it is obtained in the form of a non-flocculent precipitate. There is but a small quantity of glycogen in the bones. Relatively large however is the amount of this substance contained in cartilage, which should be placed in the same rank with the liver and muscles as one of the organs used for the storage of glycogen.

Contributions to General Muscle- and Nerve-Physiology.—Very interesting are the results obtained in a long series of researches by E. Overton (Pflüger's Archiv, Oct. 7 and 9, 1902). He found that from the standpoint of osmosis, the muscle should be regarded as an aggregate system of semipermeable structures (the single muscle-fibers excluding the sarcolemma) surrounded by membranes having entirely different osmotic properties. The latter (sarcolemma and internal and external perimysium) oppose very little resistance to most crystalloid compounds, while the fibers themselves are wholly or nearly impermeable to the majority of inorganic and many organic compounds. Both muscle-fibers and their envelopes are on the other hand wholly or nearly impermeable to colloids and resemble in this as well as in other respects the cellulose wall of plant-cells. If a living muscle be removed from a salt solution of higher to one of lower osmotic pressure, the muscle-fibers will imbibe water; at the same time a portion of the solution contained between the fibers will be pressed out of the muscle. If the conditions be reversed the contrary results will follow. If a muscle contained in a .6 or .7 per cent. salt solution, with or without the addition of a toxic substance, dies, during and after the process of dissolution it gains markedly in weight, which implies that muscle-fibers, like all other cells, change their osmotic pressure during death, by virtue of which they are more easily permeable to sodium chloride and other rapidly diffusing salts than to the potassium phosphate contained in the fibers. When a muscle is allowed to die in a solution of cane- or milk-sugar that is isosmotic with .7 per cent. sodium chloride, the weight of the muscle diminishes inasmuch as the dying muscle-fibers are less permeable to these sugars than to potassium phosphate and other extractives of the muscle-fibers. The increase of weight of muscles contained in .7 per cent. salt solution to which a small quantity of acid or alkali is added, is related to the death of muscle and the change in permeability produced by the latter. Very weak acids and alkalies alter at the same time the capacity of the muscle to swell up. This increased swelling depends not upon any greater concentration of the muscle-constituents dissolved in water by splitting, but is rather a manifestation of the same process by virtue of which blood-fibrin greatly swells up in weak acids. That the solutions of many weak organic acids occasion an increased imbibition of water in muscle, which is greater than in the presence of strong acids, would have been expected from reference to the phenomena of electrolytic dissociation, that is, muscle-fibers and other animal and plant cells in an uninjured condition are easily permeable to the non-ionized molecules of numerous organic acids, while only in an undamaged condition are they permeable to ionized molecules. If living muscles be transferred from .7 per cent. sodium chloride to 4 per cent. sodium chloride plus 3 per cent. methyl or ethyl alcohol, they imbibe almost as much water as if transferred to .4 per cent. sodium chloride without the addition of alcohol. This can only be explained by the hypothesis that living muscle-fibers are easily permeable with respect to dissolved alcohol-molecules. All other alcohols penetrate the muscle-fibers with ease. The author has, as the result of numerous investigations, arrived at the rule that all compounds which next to a marked solubility in water are also soluble in ethyl ether, in the higher alcohols, in olive oil and in similar organic solvents, penetrate with exceptional ease living muscle-fibers and other animal and plant cells. It is probable that muscle-fibers are easily permeable to over 60,000 of the 75,000 organic compounds already known. It is quite probable that a large proportion of these compounds that play an important rôle in the metabolism of plants and animals belongs to these bodies for which muscle-fibers and other cells are nearly or wholly impermeable. The more the constitution of these compounds is understood, the more one is able to produce derivatives that have the power to penetrate cells with ease, and it is not improbable that organisms avail themselves in part of a similar contrivance by which they are enabled to regulate the concentration of the nutrients contained within the protoplasm; this ability would be of the greatest significance from the standpoint of the dynamo-chemistry of the cells, since most of the chemical processes in living cells belong undoubtedly to the reverse, so that the concentration for the time being of the reacting compounds sets the bounds to the anabolism and catabolism of the protoplasm. If muscles be placed in solutions of cane-sugar or other non-electrolytes isosmotic with the blood, to which muscle-fibers are wholly or nearly impermeable, after a certain time they will lose the power to contract and conduct impulses. This loss of excitability is caused by the exosmosis of the sodium chloride from the solution by which the muscle-fibers are surrounded. On the contrary nerve-trunks kept for some time in pure sugar solutions do not lose their excitability. The excitability of muscles kept for a long time in sugar solution gradually returns after the addition of a small quantity of sodium chloride. The inexcitable condition is not caused by any increased electrical resistance produced by the loss of sodium chloride, for the muscles are equally as irresponsive to mechanical stimuli. Sodium chloride can be replaced by all other non-toxic sodium salts, as long as the concentration of the latter is equivalent to that of a .07 per cent. sodium chloride solution. Sodium salts can be replaced by those of lithium but not by those of potassium, rubidium, cesium, ammonium, magnesium, calcium, strontium or barium. The rôle played by the sodium or lithium ions in the propagation of the stimulus and the contraction of the muscle has not yet been determined; possibly during these processes there occurs a certain exchange between the potassium ions of the muscle fibers and the sodium ions of the surrounding fluids, still such an hypothesis is attended with considerable difficulties.

NEUROLOGY AND PSYCHIATRY.

Treatment of Tic Douloureux.—The radical treatment of this condition by division of the sensory root of the Gasserian ganglion has been performed but once in the human subject and as a year has since elapsed, a further report on the outcome of the case should prove of interest (Phil. Med. Jour., Oct. 25,1902). The surgical aspect of the case is considered by C. H. FRAZIER, who operated on the patient in question, a man of sixty-eight, after four peripheral operations had been done without success. Examination one year later showed complete anesthesia over the area corresponding to the distribution of the trifacial nerve, there have been no corneal ulcers, there has been no recurrence of pain and the patient's mental state reveals marked improvement. The writer claims certain advantages for this operation in preference to that of complete extirpation of the Gasserian ganglion. The hemorrhage in the latter case is always very profuse and often fatal, especially on account of the liability of wounding the cavernous sinus which is in intimate relation with the internal aspect of the ganglion. In practising division of the sensory root, the manipulations are confined to the root itself and to the posterior aspect of the ganglion and in this way the cavernous sinus may be avoided. The exposure of the ganglion is by far less difficult than its extraction, and the danger of injury to adjacent structures is thereby avoided, more particularly the motor root of the ganglion, the sixth nerve, and the cavernous sinus. Another claim for the operation is a reduction in the rate of mortality, this being a prediction based on the advantages just noted and the lessened tissue traumatism and predisposition to infection. The operation was first suggested by W. G. Spiller who adds in the same paper some of his own observations. It is now accepted that only those nerve-fibers that are supplied with sheaths of Schwann possess the property of regeneration, which is common in peripheral nerves and absent in fibers from the central nervous system as these have no sheaths of Schwann. This probably accounts for the permanent relief from pain in this case. He thinks that the sensory root should be divided close to the pons so as to leave no part of the root containing sheaths of Schwann in connection with the pons, and that as much of the root should be resected as can be conveniently cut. The absence of all corneal changes in the case operated upon seems to indicate that the Gasserian ganglion may exert a trophic influence over the peripheral branches of the trigeminus, this fact may mean that leaving the ganglion *in situ* is another decided advantage.

Rare Case of Multiple Sclerosis.—While it is true that the location of the sclerotic areas in multiple sclerosis may give rise to a great diversity of symptoms in that disease, W. SINKLER (Phil. Med. Jour., Oct. 25, 1902) says that he has never seen or heard of a case of multiple sclerosis in which were present marked symptoms of locomotor ataxia. The case he reports is a man of 62, who presents symptoms of both diseases,—he has violent lightening pains, absence of knee-jerks, inability to stand with the eyes closed, loss of bladder control and loss of sexual power. There is, however, comparatively little incoordination of the hands, and but little in the feet, and there is no Argyle-Robertson phenomenon. There is a marked typical intention tremor of arms and legs when standing, but there is no nystagmus and no defect in speech.

Relation of Alcohol to Insanity.—The English people drink less per head than those of France, Denmark, Belgium, Holland or Germany. Nevertheless, in 1898, man, woman and child in Great Britain had each to pay nearly $20 a year for alcoholic drinks. ROBERT JONES (Lancet, Oct. 25, 1902) further reports that in the last 15 years the death rate from alcohol has increased 42 per cent. in men and 100 per cent. in women. This mortality is greater than that due to all the zymotic diseases put together, in such towns as Liverpool, Leeds, London and Manchester. Out of the 60,000 women and 50,000 men whose insanity formed the basis of the lunacy report of 1901, the proportion of instances in which alcohol has been the assigned cause of insanity has been, in the males, 21 per cent.; in the females, 9.5 per cent.! In Scotland the proportion is much higher, and, after deducting for error, it is safe to say that at the present time there are no less than 10,900 males and 5,800 females, supported by the community and insane through their own inability to refuse alcohol. As is well known, the effects of alcohol depend on the dose and on the relation of the individual to the poison. Most of the forms of alcoholic insanity which drift into the asylums are of the chronic type as the acute form—which, indeed, as often kills—rarely lasts long enough to get beyond the emergency hospitals. Attempts have been made to differentiate between the effects of the various forms of alcohol but the distinction is less psychical than physical. "Gutta cavat lapidem non vi, sed saepe cadendo,"—it matters not much to the mind whether the drink be beer or ale, champagne, whisky or absinthe. The whisky and the gin liver, on the other hand, are as familiar as the gross fatty changes in the organs of beer drinkers. The modifying factors are as follows.— (1) The diathesis—this is present in 30 per cent. of cases; (2) women are less curable than men; (3) elimination plays a very important part; conditions of skin, of kidneys, lungs, etc.; (4) open air life favors tolerance of alcohol; (5) the period of greatest incidence to this form of insanity corresponds to that of maximum mental strain. From twenty to thirty years of age represents the intellectual struggle; from thirty to forty years, the financial—this is the period in which the indifferently built organisms most feel the need of and during which they most frequently succumb to stimulants. The condition of "paramnesia" or an inability to orient themselves is a characteristic symptom of chronic alcoholic insanity. There is a loss of the "focusing" power of the brain-irritability, garrulity and license surely develop; offenses against public decency are common. Sensori motor disturbances may become so grave as to be epileptiform in character and these may be followed by exhaustion, both mental and physical, giving coma and paresis. The treatment is to remove the cause, but this, unless most carefully done, is apt to be followed by pneumonia, which, failing to resolve, frequently terminates in tuberculosis and death. No drugs are beneficial; the remedy for the trouble lies in total abstinence enforced by Parliamentary acts.

Myasthenia Gravis.—According to C. S. MYERS (Jour. of Path. and Bact., Sept., 1902) there are three pathognomic signs of myasthenia gravis. They are: (1) Ready fatigue of certain or general voluntary movements either to a succession of tetanizing currents applied to the nerve or to volitional impulses descending from the brain; (2) the exacerbations and remissions shown in the course of the disease; and (3) the tendency to a fatal implication of the muscles enervated by the bulb. Other signs of a negative character must be added; (4) there is no reaction of degeneration; the muscles react to a faradic current of normal intensity or more often require one somewhat stronger; (5) the muscles as a rule show neither atrophy nor fibrillary contraction; (6) sensation and intelligence are unimpaired; (7) the reflexes may be normal, are often feeble, but perhaps most frequently are somewhat exaggerated. Clonus is absent; (8) purely voluntary muscles are alone affected. The mechanisms of defacation and micturition are never impaired; (9) the myasthenia, although often unequally marked on the two sides, is almost invariably bilateral. It is of vital importance to distinguish the disease from hysteria and it must be remembered that none of the stigmata of hysteria has been found in the disease and disturbance of sensation are almost invariably absent. The difficulties of swallowing and breathing are such as arise from obvious weariness and not from spasm or lack of coordination. In hysteria the voice is never nasal but the vocal cords are inactive—a condition but seldom met with in the last stages of myasthenia gravis. In hysteria, external opthalmoplegia and implication of the orbicularis oris and levator palpebral muscles are rare while they are among the most common affections in myasthenia. From chronic bulbar paralysis, the extraordinary remission and exacerbation of symptoms, the frequent implication of the higher nuclei and those ennervating the trunk and limbs, the general absence of muscular atrophy, of fibrillary contractions and of degenerative electrical variations, are among the most prominent points of distinction. Other conditions from which the disease must be distinguished are progressive, muscular dystrophy, neuritis, Landry's paralysis, neurasthenia and chronic polioencephalomyelitis. The myasthenic reaction is not however confined to myasthenia gravis; it has been found in the hemiplegia of cerebral carcinoma, in apoplectic paralysis and in cases of muscular hypertrophy, chronic poliomyelitis and Landry's paralysis, of 20 fatal cases, 13 were females and seven males. The mean age of male subjects is 35, of female, 24. As a rule, no neuropathic, hereditary influences could be obtained. Nearly all the patients were hard-working members of the lower and middle class, engaged in manual work. A history of syphilis or of alcoholic abuse was rare but overwork and exposure were common antecedents. The disease frequently begins with headache, chill, diarrhea and other alimentary disturbances and may suggest typhoid or influenza. The first occurrence of muscular weakness was often attended with cervical or sacral pain, occipital headache, photophobia or vertigo. The muscles earliest attacked were the levator palpebral superior and the muscles of mastication or deglutition, of 19 cases, death occurred in 11 between five months and two years after the first onset; in two within four months, in four, between two and three years, in one, 15 years and in another, 8½ years. It is probable that the cause of the disease is some latent toxin; whether or not it arises from interference with internal secretion, it is probable that in the end the nerve-endings are mainly affected. Before this stage has been reached, however, the nerve-cells of the motor nuclei may for some reason have lost control over the nutrition of the nerve-endings. In many cases, however, no lesion has been found post-mortem; in some a fragmentation and diffuse arrangement of the Nissl granules of the motor nuclei; in one or two rare cases the nerve-fibers have begun to degenerate and muscular atrophy may then conceivably have set in. The treatment of this obscure disease may be summed up in two words—complete rest. Many drugs have been tried in vain and only strychnine is of use in emergency. In view of the possible toxic nature of the disease it is well to attend to intestinal antisepsis and to avoid constipation.

Impotence Due to Abuse of Tobacco.—It is a well-known fact that the use and especially the abuse of tobacco is responsible for a great many disturbances, such as: Intermittent pulse, cardiac palpitations (of functional, not organic, origin), dyspepsia, gastralgia, loss of appetite, angina pectoris, disturbances of vision, attacks of vertigo, loss of memory, impairment of sensibility and motility, etc. The tremor and cough in smokers cease at once on the suspension of smoking or snuffing. Even the very bones can not escape the baneful effects of the herb; it imparts to them a yellowish tint. It is also beyond doubt that the abuse of tobacco causes organic heart lesions. It has been proved by experiments upon animals as well as observations on man that the abuse of tobacco is liable to bring on impotence. The effect of tobacco on the system is that of a slow poison, the absorption taking place through the stomach and through the lungs. The intoxication is slow and gradual, but more rapid in those who swallow the smoke. The analysis of tobacco smoke has demonstrated the existence of alkaloids even more poisonous than nicotine, and acting directly on the medulla. It is also necessary to note the presence in the smoke of tobacco of hydrocyanic acid and carbonic oxide with their deleterious effects on the system. According to Georges Petit in acute intoxication from tobacco the testicles become congested and the semeniferous canals become the seat of active cellular proliferation with epithelial desquamation. In the chronic variety of poisoning the testicles atrophy and become discolored; Juge de Segrais (Arch. Generales de Med., iv., 1902) finds that intoxication of long duration converts the ovary of the female into a small kernel, hard and yellow in color. He also met similar fibrous degeneration in the testicles of the male. These anatomical lesions as found in chronic intoxications of animals correspond entirely with the symptoms met with in the human being and testify to the violent effect of the herb on the procreative organs. Thus it may be stated with certainty that the abuse of tobacco produces positive clinical "disturbances irrefutably" verified by anatomical findings.

Spastic and Syphilitic Spinal Paralysis.—Upon these rather common forms of nervous diseases, W. Erb, (The Lancet, Oct. 11, 1902) has an interesting paper, from which the following points on diagnosis are taken. The diagnosis of these two forms of disease is not very difficult in most cases, and may be confidently made when the typical picture has developed slowly and gradually, or also, perhaps, rather more acutely, as after the occurrence of injuries, excesses, over-exertions, or some other factors, and also when syphilis has been proved in the previous history. It is often possible to make a diagnosis when the history of this disease is at first wanting, as, for example, in married women, by examining and questioning the husband. It is distinguished from simple spastic paralysis by the presence of the disturbance of sensation and of bladder function; from transverse myelitis by the absence of marked paralytic phenomena with decubitus and cystitis; and from meningo-myelitis by the absence of meningitic and root symptoms, with their varying intensity and complicating paraplegia. Actual syphilitic myelitis, spinal gummata (which not uncommonly present themselves in the case of Brown-Sequard's paralysis), softenings and hemorrhages caused by syphilitic diseases of vessels; these generally present clinical pictures of a different kind, even though they may be difficult to recognize individually. Other spinal affections, like multiple sclerosis, syringomyelia, amyotrophic lateral sclerosis and anterior chronic poliomyelitis, etc., will hardly ever cause any difficulty in the diagnosis. As regards the prognosis, he says that it is not altogether unsatisfactory, as though only very rarely does recovery occur and can be expected only in the earliest stages, a standstill and improvement, the power of gaining a livelihood, and considerable duration of life may be expected. Many cases, however, succumb to exacerbation of the disease, paraplegia, marasmus, decubitus, etc.

Blood-Letting in Severe Headache.—According to the experience of H. MARAIS (La Sem. Méd., Oct. 1, 1902) blood-letting usually constitutes a good means of treatment of persistent severe headache, such as are frequently observed in middle life, and are rebellious to all ordinary forms of treatment. In this manner he cured a patient, forty years old, of severe continuous pains in the head, which had resisted all ordinary means of treatment previously employed. At the end of a copious blood-letting the patient remained free from all headache for two years. At the end of this time a recurrence of the headaches appeared. The treatment and its success were both repeated. In another patient there was an acute crisis of headache, with vomiting and high fever, in a thirty-three-year-old man. The headaches were exceedingly violent, and had persisted, notwithstanding the use of antipyrene and of other sedatives in large doses. He practised blood-letting on this patient, and on the following day most of the pain had disappeared, and five days thereafter the man was entirely well.

Raynaud's Disease.—The unusual association of Raynaud's disease with exophthalmic goiter is reported in a case by S. W. THOMPSON (Med. Rec., Oct. 11, 1902). A man twenty-nine years old, always of a very nervous disposition, had been suffering from Graves' disease for about nine years. He had noticed that his middle and ring fingers of left hand became cold and pale when exposed to the cold and sometimes he had slight pain. After a slight injury to the palm which healed up readily the pain became much greater and there was swelling and redness but no inflammation and this condition gradually spread involving other fingers and the hand. Finger nails were flattened and had ridges running across them and blebs filled with serum appeared on the ends of the fingers and at the bases of the nails. Electricity, static and galvanic, heat, nitroglycerine and massage were used without benefit. Ulceration occurred and the pain became so great that 24 grains of morphine daily failed to relieve the sufferer. Amputation was done above the elbow but the patient died in a few days.

SURGERY.

Actinic Rays in Minor Surgery.—A set of lamps for utilizing the ultra-violet rays of the electric light has been devised by Minin of St. Petersburg, who has reported the treatment by this means of burns, hematoma, acute myositis, and who has utilized it further for the relief of the pains accompanying contusions, pleurisy, etc. Minin claims that the rays from his apparatus produce cutaneous anesthesia and thus make skin stitching and incisions painless. In a number of minor surgical cases reported by E. A. TRACY (Bost. Med. and Surg. Jour., Nov. 6, 1902) the Minin apparatus was used to produce either anesthesia or antisepsis by means of the actinic rays. For anesthesia the operator applied the rays from a No. 3 Minin lamp at a distance of 10 inches for 15 minutes. In one case two one-inch incisions were made for the removal of a cyst; the patient felt no pain. Similar cases are reported by Minin, who shows that after illumination with his lamp primary union occurs in wounds which otherwise would heal less kindly.

Segmented Ring for Intestinal Anastomosis.—A device which has been used with success in a number of cases of intestinal anastomosis is described by F. B. HARRINGTON (Bost. Med. and Surg. Jour., Nov. 7, 1902). It consists of a ring of aluminum made in four sections, jointed together firmly by a small bar of steel, with a shoulder and screw thread, which serves as a handle. The ring can be used for end-to-end anastomosis, for lateral anastomosis or for gastroenterostomy. Purse-string sutures are sewed into the two portions of the gut to be united. These sutures are then firmly tied in the groove of the ring. A Lembert suture may be used to approximate the peritoneal surfaces of the gut. The handle, which is six inches long and is an aid in manipulation, has been held by an assistant; it is carefully unscrewed and withdrawn, and if this is done carefully the purse-string ligatures hold the ring in shape and keep the segments from falling apart until the softening of the catgut or the sloughing of the included intestine allows this to happen. The segments of the largest ring used are small enough to pass through the small intestine of a child. The steel handle is so small that the opening through which it is withdrawn may be perfectly closed by a single Lembert stitch. Harrington claims that these rings combine advantages of the Murphy button and the Laplace forceps. They are quickly applied. The handle facilitates manipulation. The segments are small and can be quickly passed; they are light and do not cause pouching of the intestine. The lumen, which is at once established, is much larger than that of the buttons. A set of three rings with diameters of five-eighths, seven-eighths and 1⅛ inch gives all the sizes needed.

Statistics of Bassini Operation.—A series of 800 cases of hernia for which the Bassini operation had been done at the University Clinic in Berlin, have been made the subject of a report by G. GOLDNER (Archiv f. klin. Chir., Vol. 68, No. 1) with particular attention to the subject of recurrences. He limits the requirements of a favorable issue by demanding in these cases that the patient remain free from any recurrence not less than two years after the operation. Recurrences are considered as present when a hernia appears through the external inguinal ring, when there is a distinct gap in the scar in which a tumor is developed on coughing, or when a femoral hernia develops. Based on these points the percentage of recurrences was found to be 7½ per cent. The most common site was the lower angle of the wound, less frequent the interstitial form in the muscle or between muscle and Poupart's ligament. Least frequent was a true recurrence found when union by suture of the musculature to Poupart's ligament failed entirely and the formation of a new posterior wall to the canal did not result. The report gives further interesting details: 804 radical operations were done in 473 patients, of which 423 were males and 50 females. The greater number of patients were between the ages of twenty and thirty. Direct hernias were found in only 12 cases, in five double, and the combination of oblique and direct was found twice. In eight patients examined only one showed a recurrence and that a crural hernia. The prognosis therefore ought not to be so bad as generally believed. Cryptorchism was found as a complication in 27 cases,—in six nothing was done; in 10 cases orchidopexy was undertaken with good results.. In 772 cases of nonincarcerated hernia primary union was secured in 675 instances. In 80 cases there was a superficial infection; in 17 cases, deep. Most of these occurred in the early series, from catgut or drainage gauze, but did not seem to have any marked influence on recurrences.

Paraffine Injections.—So successful have been the results of the use of paraffine injected subcutaneously in relieving deformities that plastic surgery must necessarily give way to this method of treating many of the minor defects of form and position. A. E. Comstock (Med. Rec., Nov. 1, 1902) has made several experiments with paraffine to determine the melting point which will give the best results with the least amount of reaction. He employed a mixture of soft commercial paraffine with melting point of 120° F. and white cosmoline, melting at about 100° F. With these he made mixtures melting at various temperatures from 102° F. to 110° F. The experiments were carried on upon the rabbit whose normal temperature is about 102° F. A metallic syringe with large needle is used and the needle is inserted at one side of this area which it is desired to elevate and introduced till it reaches the other side of this area when the paraffine injection is begun and the needle gradually withdrawn. It was found that when the melting point of the paraffine was only slightly above the body temperature the mass frequently remained fluid and at times passed into the general circulation and caused death by embolism. Much better results were obtained when the melting point was six or eight degrees above the body temperature for the foreign mass then remained firm and the organization of it was much more rapid. Sections made of these masses showed that there is a proliferation of cells around them and an infiltration by the connective tissue cells which begins in about two weeks after the injection and continues for at least three or four months. At the end of that time the paraffine has been thoroughly incorporated, having a fine network of connective tissue running throughout it. A very slight local irritation follows the injection and from experiments it is believed that there is no danger of a toxic dose for from 10 to 15 pounds could probably safely be injected in a normal adult.

X-ray Treatment of Cancer and Tuberculosis.—Glowing reports are now being made from various sources in regard to the beneficial results of the X-ray treatment of malignant diseases and although there has not yet been sufficient time to make a thorough test of the permanency of the cure, yet it has already been demonstrated that this remedy is by far the most potent that we now possess in the treatment of these diseases. E. H. Grubbè (Med. Rec., Nov. 1, 1902) has watched the action of the X-rays upon a very large number of cases, being connected with a clinic where there are, on an average, over 70 patients treated daily. He does not coincide with the theories that the X-ray causes a direct transformation of cancer tissue into normal tissue or that the results are due to the bactericidal action of the rays. It seems more probable to him that an irritation is caused which attacks the leucocytes and determines a focal inflammation with secondary degeneration and separation of the diseased parts. A general and systematic action also seems to appear, probably due to a stimulation of the lymphatics, for the nutrition of the entire system is affected. Particular attention is called to the necessity of a thorough knowledge of the use of the X-ray, for each case demands individual and special modifications of the use of the apparatus. Burns are very rare when proper precautions are taken and when they so occur should seldom if ever cause permanent scarring if properly treated. He does not hesitate to say that the X-ray is the most remarkable therapeutic agent of the last decade. The relief of pain is one of the most prominent features and in itself is one of the most gratifying of the results so far as the patient's happiness is concerned. In epithelioma and lupus the most wonderful and apparently permanent changes occur but even in internal carcinoma the percentage of cures is greater than can be claimed by any other manner of treatment. It is, by no means, advised, however, that in early operable cases that the X-rays should be relied upon in lieu of a radical extirpation.

A Device for Infusion.—One might say that the effort toward the production of specialized instruments will never cease, and that if a practitioner attempted to add them all to his armamentarium, he would practically be obliged to have a large room set aside for no other purpose than to hold instruments. The following ingenious, although perhaps unnecessary, device for infusing normal salt solutions is described by L. A. Oleba (C'blatt Gynec., Oct. 25, 1902). Why it should be necessary, in face of the fact that if we start with fluid 112° or 115° F., we know that we deliver it into the body from at 107° to 110° F., is not quite in evidence, but since the instrument is scientific, a brief description will be of interest. It consists of an inner and an outer rubber tube, each approximately three feet long. At the distal end of the inner tube is attached the needle, which is introduced either into the vein or beneath the skin, according as the infusion is an intravenous or hypodermatic process. Into the proximal end of this same tube is inserted a large glass funnel, which receives and delivers the infusion fluid. The upper end of the outer tube is tapped laterally by a branch leading to a large reservoir that contains heated fluid which, when the apparatus is working, passes through the outer tube, warms the contents of the inner tube to the proper temperature, and finally is delivered by an exit which taps the lower extremity of the outer tube and leads to a bucket beneath the bed. Ingenious and simple in one sense as this apparatus is, it is probably much more difficult to be sure of a uniform temperature of all the fluid infused than with the old method of starting with it several degrees hotter in the reservoir than is desired at the needle point.

Ligation of the Ureter.—Occlusion of a ureter by a ligature or clamp has been quite frequently seen during gynecological operations by V. A. Sampson (Am. Med., Nov. 1, 1902). Only a portion of these injuries are recognized during or after the operation. A ligature about the ureter, if removed at the end of the operation will probably not have injured the ureter, but an operation which interferes with the blood-supply of the ureter may give rise to a urinary fistula. Complete and permanent occlusion of the ureter in the absence of infection leads to renal atrophy and this occurs without much shock or constitutional disturbance. Ligation of the ureter is probably less likely to cause either a marked hydronephrosis or a pyonephrosis than a ureteroureteral anastomosis. Ligation of the ureter may be considered justifiable where ureteroureteral or ureterovesical anastomosis is impossible. Care should be taken to doubly ligate it with nonabsorbable material and, if possible, to place the ligated end in a skin incision, only a portion of the case of ligation or clamping can be recognized after operation as where (*a*) anuria follows, (*b*) a fistula develops, (*c*) definite symptoms arise, as pain along the ureter and in the kidney region, possibly associated with chills and fever, (*d*) a mass forms in the kidney region due to hydronephrosis. Ligation of the ureter may terminate fatally when renal insufficiency exists, or in case of profound shock. There may also be a leakage of urine, which, when the abdomen is closed, may cause death, especially when infection is present. Catheterization of the ureter preliminary to hysterectomy for carcinoma of the cervix is a great aid, but the catheter should be removed before closing the abdomen. The catheter allows the ureter to be palpated, it prevents interfering with the blood-supply and it protects it in various ways.

MEDICINE.

A Study of Empyema Based on Bacteriological Findings in the Exudate.—While empyema is in a majority of cases the result of pneumonia, the character of the pneumonia is not to be judged according to the organism present in the exudate. The lanceolatus, if present, may reasonably be taken to indicate a previous pneumonia; but the streptococcus, if present may indicate a lobar, lobular or "grippal" pneumonia or a phthisis with a mixed infection. In general, the organism in the purulent exudate is as likely to be the contaminating as the original infection. A clinical study of 135 cases has been made by C. F. WITHINGTON (Boston Med. and Surg. Jour., Nov. 6, 1902), who declares that when the streptococcus is present and is due to suppurative or pyemic conditions outside the chest, it is usually of a virulent type and has a correspondingly bad prognosis. In the metapneumonic cases the prognosis of streptococcus is little worse than that of lanceolatus. The particular organism present is a less cogent factor in determining the need of operation than the fever, prostration, chills, the quantity of pus cells present and the tendency to refill after operation. The gradual development of pus after successive aspirations can usually be predicted from the presence of strepto- or pneumococci in the first fluid withdrawn, even though that be a clear serum. But pus may also appear when the earlier tappings are sterile.

Renal Insufficiency in the Tropics.—Many writers on military hygiene and on tropical disorders confirm in a measure the water abstinence dogma. They advocate the habit of rarely drinking water between meals or on the march. J. C. MINOR (Jour. Am. Med. Assoc., Nov. 15, 1902), a United States Army surgeon stationed in the Philippines believes from his observations that this doctrine is wrong and that many ailments which soldiers present after exhausting duties are due primarily to renal insufficiency brought on by excessive loss of body fluids. One hundred cases in the hospital at Los Banos under treatment for various complaints showed a very low excretion of solids on admission and this while the patients were in a passive condition, more favorable for renal activity. The increase of solids on return to duty commends the idea of systematic instruction in the use of water, for no other treatment was employed. The author concludes that whether the systemic disturbance causing the usual disorders peculiar to the tropics be uric acid or faulty metabolism, or both, the kidneys in the tropics do not perform their share of the work of emunction. The reason for this renal insufficiency is that the tide of water pours through the skin so rapidly that the volume of circulation is correspondingly diminished and waste products are not properly eliminated. The remedy is the internal use of water as fast as it is wasted by the skin in order to force the kidneys to work and to maintain a normal volume in circulation. Also the external use of water and sun baths systematically for their toughening and contractile influence on the skin.

The Clinical Value of the Ehrlich Dimethylamidobenzaldehyde Reaction.—Ehrlich's reaction is based upon the formation of a red coloring matter in certain urines by the union of dimethylamidobenzaldehyde with an unknown substance in hydrochloric acid solution. The reaction may and indeed usually is obtained in some degree in normal urines, but in the pathological urines, especially of typhoid fever, phthisis and chronic enteritis a marked accentuation of the color reaction is obtained. In a series of 1000 urinary examinations E. V. KOZICZKOWSKY (Berl. klin. Woch., Nov. 3, 1902) found a marked and hence "pathological" reaction in cases of phthisis pulmonalis, tubercular peritonitis, fibrinous pneumonia, acute endocarditis infectious cholecystitis and cholangeitis, chronic bronchitis with bronchiectasia, acute articular rheumatism and scarlatina. In five cases (four of phthisis and one of lobar pneumonia), the reaction was marked throughout the entire course of the disease and until death. The cases of phthisis were of the severest type, rapidly progressive and accompanied by marked emaciation. The case of pneumonia was one involving both lungs. In two instances a constant reaction of high degree has been obtained in patients still living; one is a case of infectious cholecystitis and cholangeitis, the other an acute endocarditis following articular rheumatism. In certain cases of pneumonia, phthisis, endocarditis, rheumatism and scarlatina a parallelism was noticed between the improvement in subjective and objective condition of the patient and the weakening of the reaction. On the other hand severe and fatal cases of hepatic cirrhosis, chronic nephritis and splenic tumor failed to give a marked red reaction at any time, even just before death. No relation could be established between temperature and the intensity of the urinary reaction. It was found that all urines presenting marked reactions were of high specific gravity; the converse was not true. The dimethylamidobenzaldehyde reaction bears no uniform relation to the Ehrlich diazo reaction, nor to indicanuria. These tests evidently fail to establish any connection between the Ehrlich reaction and any special disease and the author is not convincing that the reaction has any real clinical value.

Diet in Typhoid.—It has been shown by clinical observations of later years that the usual liquid diet given in typhoid is not essential and W. E. ROBERTSON (Phil. Med. Jour., Nov. 15, 1902) concludes from recent statistics and his own cases, that such patients may be given quite a variety of foods not only without harm, but with decided advantage, both as to their condition during the attack and as a means of effecting prompt restitution of their physical vigor. Milk is an excellent food, but beside the tendency to form tough curds, patients frequently refuse to take it. In 300 autopsies the author states that he has never found solid masses in the small bowel, no matter what diet the patient received unless milk constituted the bulk of the food. It is apt to form putty-like curds throughout the alimentary tract. A more liberal diet will serve, the writer believes, to diminish the number of deaths from asthenia and intercurrent affections usually caused by the invasion of the weakened organism. As for the third cause of death, erosion of a large vessel or perforated ulcer, it is usually agreed that a liberal diet does not increase the liability of these accidents but on the contrary, rather tends otherwise by increasing the resistance of the individual.

Tuberculosis and the Sulcus at the Lung's Apex.—Following up Birch-Hirschfeld's idea that the more frequent occurrence of tuberculosis in the apex of the lung is to be ascribed to special conditions within that area, by which the space is contracted and respiration thus obstructed, Schmorl pointed out the presence in the apex of a sulcus which had not hitherto been generally recognized, and which he attributes to pressure from the first rib; the latter being shorter than the normal in those cases in which the sulcus is found. R. PIANORI (Gaz. Osped., Oct. 19, 1902) discusses Schmorl's theory that the predilection of tuberculosis for the apex may be in great part accounted for by functional and circulatory disturbance due to compression, in those cases in which the sulcus is seen. Pianori found upon the lungs of two infants aged respectively eight and 14 months, the costal impression which Schmorl describes; though examination showed perfectly healthy lungs. Partial confirmation of Schmorl's idea was, however, found in the case of a man whose lung presented a well-defined sulcus at the apex and in whom unmistakable signs of tuberculosis were present in that area. The author concludes that compression of the lung by an abnormally short first rib may be one of many factors in the predisposition of the apex to tuberculosis; and suggests the regular practice, for those predisposed to tuberculosis, of medical gymnastics consisting in suspension by the arms upon rings, trapeze, etc., that enlargement of the upper part of the thorax may be accomplished.

Suprarenal Glycosuria in the Human Organism.—Following up the work of Blum, Zülzer, Herter and Richards, who produced glycosuria in animals through endovenous, subcutaneous and endoperitoneal injection of suprarenal extract, S. BARBA (Rif. Med., Oct. 22, 1902) has injected the extract hypodermatically in man; selecting as subjects for the investigation of the glycogenic influence of this substance, patients affected with Addison's disease, tabes and bulbar asthenia. From the work done, he finds that such injections do not induce glycosuria in the human subject with healthy suprarenal capsules, nor in those affected with Addison's disease. In the latter, the general condition was aggravated by the treatment, while in tabes and bulbar asthenia there was a distinct improvement and increased diuresis.

Actinic Rays in Tuberculosis.—Heat and electricity have been employed for the relief of suffering from the beginning of medical history but it is only recently that the third important factor, light, has been recognized as a valuable therapeutic agent. It has long been known that the tubercle bacilli never thrive in an open wound and that fresh air and sunlight are their strong enemies, but the value of concentrating the chemical properties of sunlight was not fully appreciated. J. W. KIME (Med. Rec., Nov. 1, 1902) has for several years been employing the violet and ultra-violet rays of sunlight by a specially devised reflector, and believes that these rays exert a specific action upon epithelioma and tuberculous inflammations. A reflector is made use of, 36 inches in diameter, so constructed that all the light falling upon it is focussed three feet in front of it upon a spot eight inches in diameter. An intense blue light, which is rich in actinic rays, is thus utilized. This is thrown upon the bare chest of the patient for from two to three hours each day when the sun shines. Although it is very warm, this light does not produce blistering of the skin. The changes which occur are probably caused in one or both of two ways: (1) The powerful light penetrates the chest wall and produces an engorgement of the parts with blood increasing the nutrition or perhaps exerts an inhibiting effect upon the tubercle bacilli; (2) the effect of the light upon the blood that circulates in the skin must be very great. What effect, in a depurative way, this light may have upon the blood has not yet been discovered, but it is certain that a high percentage of the light is absorbed by the blood. An important element, undoubtedly, is found in the wonderful amount of hope which is stimulated by this method of treatment. Of course, this specific method of treatment should be combined with life in the open air, good nutritious food and hygienic surroundings which, in themselves, often prove sufficient, but the visible changes which occur so soon in lupus as a result of this treatment, seem to justify the belief that the marked rapid improvement in laryngeal and pulmonary cases is also due, in a large measure, to the actinic rays. In lupus there is an engorgement of the parts with blood, a cleaning of the surfaces by falling off of the crusts, a healthy, granulating surface, and a beginning cicatrization which goes on very rapidly. In laryngeal tuberculosis similar changes can be watched. In pulmonary cases the clinical symptoms and physical signs seem to change more rapidly than we could hope for, as a result of ordinary methods.

Necrosis of Intestinal Mucosa,—Although it has been known that pronounced lesions may occur in the mucosa of the gastrointestinal tract due to pathogenic organisms of the pyogenic type, yet no clear knowledge of the cause and course of such conditions has been available. An attempt has been made to classify these cases according to whether the bacteria remained upon the surface of the intestine, giving rise to symptoms by the formation of absorbable ptomaines, or passed into the tissues of the gut and were carried by the lymph and blood to other organs of the body. H. F. HARRIS (N. Y. Med. Jour., Nov. 1, 1902) reports the case of a woman about seven months' pregnant, who developed the symptoms of uremia, and as she did not respond to treatment and had a very contracted pelvis a Cesarian section was done. She recovered from the operation, but in a few days showed signs of a severe toxemia and had numerous liquid stools of a peculiar dark and offensive nature. Autopsy showed a chronic nephritis with undoubtedly an acute exacerbation. The mucosa of the large intestine and a considerable part of the lower small intestine showed marked necrotic changes, and in the ascending colon there were intensely ecchymotic areas. In the necrotic masses enormous numbers of bacteria were found, principally diplococci, which correspond in every way with those described by Escherich as enterococci, although the kidney lesion was pronounced, it is believed that the intestinal lesions were the immediate cause of death.

Nutritive Infusions.—Several contributions have recently been made upon the use of subcutaneous and intra-venous injections of proteid substances. H. C. JACKSON (N. Y. Med. Jour., Nov. 8, 1902) believes that the advantage of such a method has been overestimated. It has been claimed that because egg albumin placed in the lower bowel was soon taken up into the general circulation and as this must be done "without any peptonizing process" that egg albumin, as such, may circulate in the blood and be of utility to the body. That this proteid may pass from the intestine into the blood unchanged cannot be denied, but this condition occurs only in cases where an excess is present in the intestine over and above what can be taken care of by the intestinal enzymes and then the proteid so absorbed is excreted in the urine as being of no use to the body. The benefits derived from an enema of the white of an egg are undoubtedly due to the fact that the proteid is acted upon by the enzymes and converted into a diffusible and useful material. There is, furthermore, the danger of infection, for it is doubtful whether the ordinary contents of an unbroken egg are sterile. Since the egg albumen introduced directly into the circulation is nonassimilable and cannot supply the body with energy, its value as a hypodermic nutrient is extremely doubtful.

Significance of Abdominal Pain in Typhoid.—In a large number of cases, typhoid runs its course without abdominal pain or tenderness. H. B. ALLYN (Medicine, Nov., 1902) says that the pain, when present, may be extra-abdominal as when due to hysteria or general hyperesthesia. Of abdominal causes, the following are mentioned: intestinal colic with distention of the gut, deep ulceration, phlebitis of an abdominal vein, coincident appendicitis, ileus, peritonitis without rupture, cholecystitis and liver abscess, hemorrhage and perforation. Pain from simple colic can be recognized by the presence of gas, the escape of which relieves the pain. It is general, moves in position, is relieved by pressure and the aspect of the patient does not suggest serious complication. In enterocolitis, pain is usually accompanied with some soreness, but both are of a dull character and diffuse. The stools are frequent and loose and contain undigested food. Pain is likely to be present when the ulcers are numerous and deep; it is sharp and severe only when they reach the serosa. Tenderness here is marked. Phlebitis of the iliac veins can only be diagnosed if there is tenderness along their course or if the pain follows phlebitis of a leg. Appendicitis may occur as a complication of typhoid fever and be responsible for the pain, and sometimes the appendix can be felt by the finger introduced into the rectum. The pain of ileus often is mistaken for that of perforation, but leucocytosis appears to be much greater. Septic peritonitis without perforation may occur when there are necrosed areas of peritoneum over the bases of ulcers and in rare cases bacteria may pass through the bowel when there is an ulcer down to the serosa. The cause can only be discovered at operation or autopsy. The onset of cholecystitis is marked by pain in the right upper quadrant of the abdomen, tenderness on pressure beneath the right costal border on a line between the tenth rib and umbilicus and some muscular rigidity. The attack may occur during convalescence. The most important and serious cause of pain, of course, is perforation and the symptoms of this are too well-known to require mention.

Dysenteric Appendicitis.—A peculiar and rare form of appendicitis was observed by A. VANDERBOSSCHE (Gaz. hebd. de Med. et de Chirurg., Oct. 9, 1902) in a soldier, whose health had been seriously affected by previous residence in the colonies and chronic alcoholism. The disease began three weeks before examination with diarrhea, soon turning into dysentery; the stools were fatty and defecation painful and associated with tenesmus and colic. Fever and marked emaciation existed. The pain soon was localized in the right iliac fossa. On examination there was slight rigidity of the abdominal wall on the right side and a hard, tender strand could be felt. Several days later a small, painful mass developed and a diagnosis of appendicitis abscess was made. At operation, a cavity filled with pus of extremely fetid odor was detected. After operation, the patient sank rapidly and death occurred a week later. At autopsy the cecum appeared roughened and ecchymotic and its interior was covered with dysenteric ulcers, some of which were so thin that they tore on manipulation. The symptoms of appendicitis had been due to ulceration of the interior of the appendix with suppuration; death was caused by the rupture of a cecal ulcer. That a close connection between appendicitis and dysentery exists seems clear from this case. The rarity of dysenteric appendicitis must be explained by the fact that the dysenteric ulcers are found chiefly in the large intestines about the sigmoid flexure. The pathogenesis is identical with appendicitis following tuberculosis, actinomycosis or typhoid. From a therapeutic standpoint, it seems that the usual operation is insufficient, and that the radical cure requires greater interference, at both the appendix and cecum.

THERAPEUTICS.

Creosote in Pneumonia.—After an extended and thorough trial of creosote carbonate in acute pneumonia I. L. VAN ZANDT (Med. Rec., Oct. 18, 1902) sent out last spring to the medical profession of the country the following questions: "(1) Do you believe creosote ever aborts pneumonia? (2) Do you believe the majority of cases are mitigated by it? (3) Have you ever found cases which, having plenty of time, were entirely uninfluenced by it?" Over 70 physicians reported results upon 1,130 cases and of these 37, reporting 762 cases, say "Yes" to the first question; 15 reporting 187 cases, say "No" and 19 fail to answer. To the second question, 57 reporting 1,022 cases answer "Yes"; two, reporting 10 cases, say "No," and the others fail to answer. To the third question 33 say "Yes"; 31 say "No," and the remainder do not answer. Of 1,130 cases there were only 56 deaths, a little less than five per cent. Since the average death-rate is from 25 to 30 per cent., the beneficial results are readily recognized. It is claimed that creosote or the carbonate of creosote is one of the greatest life-saving discoveries of the century.

Anesthesin.—Anesthesin is a white, tasteless and odorless powder, soluble in ether and alcohol, insoluble in water and non-toxic. Very similar to cocaine in that it deadens pain, there are certain distinct differences according to G. S. PIESS (Münch. med. Woch., Sept. 30, 1902) for the effect of anesthesia, owing to its slight solubility in the tissue juices, lasts for hours and days but does not penetrate deeply the uninjured mucous surface unless a catarrhal condition is present. The great drawback is that anesthesin cannot be injected into the tissues, owing also to its unsolubility, so that it cannot entirely replace cocaine. The application of anesthesin with a powder insufflator in pertussis or acute coryza is often followed by great relief and it is excellent in the after-treatment of hypertrophied lingual and pharyngeal tonsils and painful diseases of the larynx.

Creosote.—At the American Pharmaceutical Association meeting of 1902, WM. MITTELBACH (Am. Jour. Pharm., Oct., 1902) called attention to the extensive sales of "coal-tar creosote" under the names "commercial creosote" or "German creosote." He attributed this to the ignorance of pharmacists and physicians, who seem to think that, having the same name, it has the same action as the official creosote made from beechwood. Coal-tar creosote is a cheap and harmful substitute, with a quite different physiological action.

Hyoscyamine and Atropine.—In examining pure hyoscyamine from scopola and pure atropine from belladonna prepared by PRESCOTT and SCHLOTTERBECK (Am. Jour. Pharm., Oct., 1902) hyoscyamine has been found by Prof. A. R. Cushny to be twice as strong as atropine in checking salivary secretion and in dilating the pupil.

Arsenic in Chemicals.—In an examination of a number of chemicals, L. F. KEBLER (Am. Jour. Pharm., Oct., 1902) found sodium phosphate to contain one sixty-fifth grain of arsenic in five grams. Not a sample of glycerin was free from arsenic. Honey was practically free, but tobacco appeared to contain a considerable amount.

Narcotine.—From extensive experimentation, CRAWFORD and DOHME (Amer. Jour. Pharm., Oct., 1902) conclude: That narcotine intravenously injected, causes a fall in blood pressure, mainly due to direct action upon the heart. The pulse-rate is slowed, the cardiac nerves unaffected. Narcotic action is slight. Respirations are increased in frequency but the individual respirations are lessened in volume—just the opposite of heroin. The salivary secretion is at once arrested by small doses, but large doses may increase it. The amount of biliary secretion is uninfluenced, the intestinal movements are quieted, and the renal secretion is diminished by intravenous or subcutaneous dosage, and unaffected by small doses per os. Narcotine is partly eliminated by the urine and partly in the stomach. It does not reinforce the action of morphine. We have no reason to believe that small doses of narcotine are injurious. Any unpleasant action the undenarcotized tincture of opium may have, is probably due to the so-called odorous principles.

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ADVANTAGES OF THE FORMAL PRESCRIPTION.

THE unfortunate occurrence of a fatal termination in the case of one of the most promising of the young professors at a great American university who had taken an overdose of chloral recalls attention once more to the importance of having very active drugs dispensed on formal prescriptions with absolute directions as to their use. The professor, a man of but thirty-five years of age, had, it seems, been a student of medicine as well as of law when younger and kept near him a preparation of chloral to be used as a sleeping draught. Suffering from toothache he took several doses of the mixture and went into a collapse. In spite of the most strenuous and carefully directed efforts, including the use of oxygen for many hours and all the known stimulants, his life could not be saved. For a time there was a revival of hope because of a temporary reaction, but the heart had suffered too severely from the drug and eventually gave out.

There seems little reason to insist on the pharmaceutical lesson that chloral is not an analgesic but a hypnotic. It will not relieve pain but will only produce sleep. If sleep should be induced as the result of large amounts of chloral while pain exists, it is a continuous nightmare of suffering and the patient awakes from his nap not refreshed but even worse wearied and irritated than before. This is not, however, a matter of general knowledge and people who have used chloral successfully for insomnia are prone to assume that it may also induce sleep when pain is the sleep disturber.

Curiously enough it is the more intelligent classes that are likely to make such an assumption. In medical matters, as in nothing else almost in life, a little knowledge is indeed a dangerous thing. Not many years ago America lost a widely known literary man from a similar abuse of chloral presumably because he made the mistake of thinking that if his delicate wife could stand a certain dose he in magnificent health and strength might take at least double the amount with safety.

The more important lesson of these sad events however, is the necessity for constant formality in the prescription of active remedies. A physician is sometimes tempted to think that a thoroughly intelligent man, a college professor for example, as in the recent instance, can be trusted not to make a foolish use of drugs. For insomnia then he may suggest the use of a certain amount of chloral without actually writing the prescription for it or fixing absolutely the limits within which the drug may be used. Such a procedure, if the remedy has in it any possibilities of causing serious symptoms or any allurements toward the formation of a drug habit, is almost sure to be a source of poignant regret.

At times there is no better reason for not giving a formal prescription than the desire to enable a friend to avoid the payment of the usual druggist's fee for the filling of a regular prescription. Such remedies as calomel, nux vomica, chlorate of potash, the recent analgesics, at times even iodide of potash are thus informally recommended. Very few active practitioners have failed at some time or other to be sorry for giving such directions. They are sure to be passed on with well-meant charitableness to cases for which they are absolutely unsuited and the physician finds sometimes to his surprise that presumably by his directions a susceptible person has been salivated by calomel, or a sufferer from chronic nephritis with some symptoms of sore throat is consuming amounts of chlorate of potash that would prove irritant even to healthy kidneys.

Of late years the more frequent use of proprietary preparations has given rise to readier opportunities for such mischances. It not infrequently happens that some proprietary preparation may prove just the medication for a special case. Facilities for the manufacture, the handling and the combination of crude drugs may enable an enterprising pharmaceutical chemist to put a more efficient remedy on the market than is possible under ordinary circumstances for the retail pharmacist. It is never advisable however, if there are more than ordinarily active ingredients in the preparation, that it should be dispensed under such labels as enable patients and their friends to secure it without a physician's directions and apart from his supervision. Remedies containing iron and arsenic are not without distinct dangers under such circumstances and these are emphasized by the fact that preparations are supposed to be used for long periods before their effect can be obtained. It may well prove that they have been all the time fostering evil tendencies of the system instead of benefiting it—the iron irritating a partially latent rheumatic disposition into arthralgic activity, the arsenic accomplishing a like undesirable purpose in the production of low grade neuritis.

The old idea that the physician's prescription should be formally written in the Latin tongue is not entirely without its sweet reasonableness even in our progressive practical century. Even this rather elaborate precaution does not always secure all the secrecy that would be desirable but it accomplishes much of the original purpose. Not that the physician needs any longer the impressiveness of the mystic symbols and a foreign language, but that the best interests of the patient are consulted by the formal writing of amounts and details of administration. Besides it remains the most effective professional discouragement for the practice, unfortunately so popular among nearly all classes of people, of using medicines on general principles and without the special indications and adaptation that can alone avail to make the ingestion of materials foreign to the normal metabolism suitable for corrective purposes.

THE EVENING POST VS. DR. WILEY.

THE *Evening Post* is ungrateful to this government and especially ungrateful and unjust to Dr. Wiley of the Department of Agriculture, who is engaged in studying for the government the physiological effects of boric acid, with a view to the determination of the proper limits of its usefulness as a food preservative. Says the *Post:* "Dr. Wiley has overlooked one consideration which, if not heeded, will make his experiments valueless." The experiments "are to be made on persons in health." Now "most American adults are dyspeptics;" therefore the doctor is enjoined to remember the soil as well as the seed, the stomach as well as the chemical.

Of such stuff is popular scientific criticism often made. Dr. Wiley proposes to study on normal subjects under proper precautions and control, the physiological effects of boric acid. He is particularly fortunate in dealing with a drug which is not a powerful poison, and which therefore permits him to utilize healthy human beings as the subjects of his experiments. The *Post* fears that since young men in the student age do not know that they have stomachs and boast that they can eat broiled brick-bats on toast, and since borax is not a violent and immediate poison, therefore Dr. Wiley may get absolutely negative results and yet prove nothing. It may be worth while to suggest to the *Post* that Dr. Wiley will not be compelled to produce violent and immediate poisoning in his subjects in order to obtain valuable results. It is true that the susceptibility of two individuals to any drug may not be equal, but it is nonsense to accuse medical men generally of overlooking this fact. Dr. Wiley's experiments will not be conducted upon a single subject but upon several; they will cover a considerable period of time, not a single day; and if such quantities of boric acid as are commonly used to preserve foods have any tendency to retard digestion or otherwise to interfere with important vital functions, it is reasonable to suppose that these experiments will throw some light on the question.

Dr. Wiley's critic remarks that the whole question of food preservatives is much too important to be decided by the experiments of any one man, however able and unprejudiced. As an alternative it is suggested that the leading nations appoint a commission of scientific men to formulate the necessary regulations. Now neither Dr. Wiley nor the Department of Agriculture proposes that his investigations shall settle the "whole question of food preservatives." This question is not now raised for the first time. Scientific men the world over have been engaged for many years in experimental work along these lines; if they have not worked according to a single plan, they have labored with a common object, and any investigator taking up the work to-day may have the benefit of their past labors for his guidance and for comparison with the results of his own experiments. We have no objection to a special international commission; but does the *Post* dream that such a commission would materially change the plans and scope of physiological and toxicological studies? It would collate clinical data and cause experiments to made on healthy human subjects and even on animals, unless—unless the adult dyspeptic editor of the *Post*, recognizing the dire need of weak individuals for protection against adulterators, should offer his own stomach as a suitable soil on which to observe the effects of dangerous poisons.

Acceptance of the *Post's* brand of scientific conservatism would block the road to advanced physiological knowledge. We sincerely trust that Dr. Wiley will proceed with his experiments undaunted. The *Post* can make itself useful by continuing to compile voters' directories, rendering unto medical men the things that belong to them.

EDDYISM RETREATS.

A recent number of the *Christian Science Sentinel*, the official organ of this sect, publishes in a very conspicuous manner this edict from Mrs. Eddy, the high-priestess herself: "Until the public thought becomes better acquainted with Christian Science, the Christian Scientists shall decline to doctor infectious or contagious diseases." Whatever the motive which occasioned it, this new law of the sect is certainly a good sign for the public welfare, especially for the children here and there who "chose unwisely in their parents."

We cannot doubt, however, that this is the natural outcome or consequence of the general and vigorous resentment, especially in New York State, that the public is beginning already to show against these persons half fanatic and half charlatan. The woman who built all this certainly has the wisdom to check it as it leans to fall. She sees the gathering storm, the weak foundation, and hurries to the need. It was certainly no average mind that organized this "new" profession, so lucrative and so free from all bother of study that other professions require, so free too from all responsibility, as from all limitations of time and space and causality. Eddyism is ingenious, to be sure, but the inevitable consequences of its methods, soon and late, are destruction. Mrs. Eddy's chief lieutenant in Boston is quoted in the public press as saying, in explanation of the latest edict: "Doubtless Mrs. Eddy has noted the effort to smite Christian Scientists on the one cheek, and she has concluded that it is best to turn the other also." Others will see in her action a laudable desire on her part to keep some of her followers out of jail.

It is doubtful if the Eddyites are aware of the fact, but to obey this order literally would be for them to lose a considerable fraction of their "healers'" incomes, there being relatively few diseases not either infectious or contagious or considered so by some. It will not, to be sure, affect the treatment of hysteria, and this is of course the great stronghold of the absent-treatment curists; still, hysteria, properly speaking, is contagious. It will not, however, affect the constant cure of cancer with all their former success, contagious or not contagious; and broken bones will continue, as heretofore, to fly together sound and whole as they become aware of the vibrations trembling through the expectant air as the absent treatment starts in.

But, seriously, Mrs. Eddy, woman that she is, seems after all to show woman's proper pity, and no longer cares, perhaps, to have her dreams disturbed by the knowledge that little children here and there, in Europe and America, are being strangled by diphtheritic membranes which today need not be there. Perhaps Mrs. Eddy has seen some of these deaths—as cruel as any that the busy physician, accustomed to cruel sights, ever has to witness. It is no wonder that the goddess of Christian Science, with death not too far off, desires to check deeds of crime like these. What the next step in retreat will lead to, who can say? Wherever it leads, the present moral for encouragement to the public benefit is clear: to keep up the opposition until at last the public, the great mass of people with common sense to live by, feels and knows the certain consequences that will come, as already they have come too much, unless these people be restrained in their fanaticism and selfish greed. In the present retraction one sees hope that the worst, officially, has passed. For it, let us, and the children, be glad.

ECHOES AND NEWS.

NEW YORK.

Resignation of Dr. Duryea.—Dr. J. T. Duryea, superintendent of the Kings County Hospital, has resigned, intending to engage in a business venture. Charities Commissioner Folks is said to be considering the appointment of Dr. Fitzgerald of Rome, N. Y., as his successor.

Resignation of Prof. Hyslop.—James Henry Hyslop has resigned as professor of psychology and ethics at Columbia solely on account of ill health. Dr. Hyslop became interested in "spiritism" several years ago and confessed his belief that the dead can communicate with the living through a trance medium. He sought scientific proof of it. He had several sittings with Mrs. Leonora E. Piper, the "trance medium" of Arlington, Mass., who two years ago confessed her ignorance of "spiritualism" and said that in her opinion all her feats might be attributed to telepathy or hypnotism.

Post-Graduate Hospital.—Four persons have promised to the New York Post-Graduate Hospital $25,000 each if the Hospital Association of the institution shall succeed in raising $100,000. The names of those who have thus pledged themselves will not be announced at present. The association has adopted the plan of seeking a popular subscription, donations to be limited to $1 each, and it believes that, in view of what it has done for the people of the East Side and for others, as grateful, there will be a ready response. Subscriptions are also to be sought among people of moderate means and the wealthier classes. The hospital is being run at a loss and is meeting with an increased demand for its services.

Forced Economy in State Hospitals Criticised.—At the session of the State Charities Conference, held in the Senate chamber Nov. 19, George F. Canfield of New York, president of the State Charities Aid Association, read a paper on "The Mentally Defective." The title of the paper read by William Church Osborn of New York, president of the Children's Aid Society, was "Safeguarding the Mentally Defective." Both Mr. Canfield and Mr. Osborn criticised the present centralized management of the State hospitals, and declared that more money should be appropriated each year for food and clothing for the insane. Mr. Canfield showed that the annual per capita cost of maintenance of insane patients, which, previous to Sept. 30, 1899, had never been below $184.25, was during the past year $161.69, which rate has been maintained in the face of a rising market and largely increased expenditures for coal by diminishing the amounts spent for food, clothing and other supplies, ordinary repairs, salaries and wages. This low rate, he said, has been coincident with a decrease in the number of recoveries from 1,209 the previous year to 1,133 during the past year, though there were nearly 600 more patients under care. It has also been accompanied by an overcrowding of the State hospitals, which is estimated variously from 2,000 to 3,000 patients. He added: These unfortunate conditions are not the result of the new system. Indeed, since the new system went into operation the State authorities, in response to the earnest recommendations of a Committee of Superintendents, have increased the allowance of food, and to that extent have improved the situation. The situation, therefore, can be still further improved, at least temporarily, without any change in the law itself. What is needed is that the governor and the legislature and the State Commission in Lunacy should abandon this penny-wise and pound-foolish policy and should permit a more generous rate of expenditure. The State Commission in Lunacy should recommend to the legislature a sufficient appropriation for the needs of the insane. The legislature should make such an appropriation, and the governor should approve the action of the legislature in so doing.

Manhattan Dermatological Society.—Regular meeting held on Nov. 7, 1902, with Dr. W. S. Gottheil presiding. Dr. J. Sobel showed a case of Urticaria Pigmentosa, in a child of twenty months; the eruption shows in crops; more pronounced in summer; a few papules can be seen on face and neck; the typical pigmented spots are well seen on abdomen and thighs; eruption bilateral and somewhat symmetrical in location. Dr. Pisco saw a case in which eruption was general; this case seemed to do better when bowels were constipated. The pigmented lesions remain as permanent ones; wheals are seldom seen. Dr. Gottheil related a case in which entire abdomen was pigmented. Dr. E. L. Cocks showed a case of Prurigo, showing the excellent results obtained by the use of naphthol and resorcin ointment. Dr. Cocks also presents a case for diagnosis. A child of seven years with subcutaneous nodules of lentil size scattered on arms, legs, neck and abdomen; present about two months; given kali iodate a few lesions have disappeared; child well nourished; functions normal. Dr. Sobel expresses doubt as to its true nature; he thought they might be rheumatic nodules; these are influenced by kali iodate as well. Dr. Oberndorfer believed the lymphatics to be involved. Dr. L. Weiss saw some resemblance to a case of lymphangioma tuberosa observed by him. Dr. Gottheil inclined to make a diagnosis of subcutaneous gumma. Dr. C. W. Allen's first thought was of gumma; he also entertained scrofula; not willing to make exact diagnosis; considered it a rare case. Dr. A. Bleiman presented a case for diagnosis. A man of forty-five showing whitish, hornified patches on mucous membranes of lips, cheeks, gums, tongue and roof of mouth; present three years and uninfluenced by all kinds of treatment, syphilitic and nonsyphilitic. Lichen planus, lingual psoriasis and simple leucoplakia were considered. Syphilis could be excluded. Dr. Pisco considered it lichen planus; he saw lesions of the latter on glans penis of patient. Dr. Cocks advised galvanocautery for treatment; would not consider it specific. Dr. Sobel called it leucoplakia of traumatic origin. Dr. Oberndorfer calls it leucoplakia buccalis; if specific would expect to find lesions of the skin; advised cautery. Dr. Gottheil agrees with the latter; locally lactic acid or the galvanocautery; he stated that these lesions were often an early stage of carcinoma. Dr. W. S. Gottheil showed an interesting case of tubercular leprosy. An Italian woman of forty years; began 15 years ago as small papules, which gradually enlarged to present conditions; the entire face is covered with large nodular masses; patient has the typical leaning face; a few nodules on arms and legs. Dr. Gottheil thought the Finsen light might benefit patient. Dr. Allen stated he observed a case treated with the X-ray; nodules got softer. Dr. Pisco saw good results from the use of arsenic, internally and hypodermically; also injections of bichloride. He saw a mild case get well without any treatment. Dr. L. Weiss discussed the position taken by the Board of Health in leprosy and the general welfare of the public. Dr. L. Weiss presented a case of chronic psoriasis, which never seemed to get well; an interesting feature was the existence of an accompanying erythema papulosum. Dr. E. L. Cocks showed a case of pityriasis rosæ corporis; the eruption had been diagnosed by a hospital staff as a macular syphilide. Dr. Pisco terms it herpes tonsurans maculosus. Drs. Allen, Sobel and Gottheil call it pityriasis rosæ; and Drs. Bleiman and Oberndorfer consider it eczema seborrhoicum. Dr. L. Weiss showed a case of dermatitis medicamentosa; a general scarlatiniform eruption covering the entire body. Dr. W. S. Gottheil presented a case of lupus erythematosus, showing the excellent results obtained by the use of the Finsen light; patient received three applications a week; in all, 14 treatments; he treated four such cases and three are doing well. Dr. I. P. Oberndorfer presented a case of miliaria confined to the chest (anterior) neck and upper part of back; present about four months; the lesion consists of minute whitish papules; a few large reddened papules were also observed.

The latter Dr. Oberndorfer attributes to treatment by a 10 per cent. salicylic wash. Dr. Pisco saw some miliaria on neck, but the general eruption he considers lichen planus. Dr. Bleiman saw typical lesions of lichen planus at bend of elbows and agrees with the last speaker. Drs. Sobel and Cocks also agree. Dr. Weiss called it lichen planus obtusus. Dr. Allen stated that both miliaria and lichen were present; the lichen not typical. Dr. Gottheil was of the same opinion. Dr. Oberndorfer stated that he expressed a whitish pearly mass from many of the papules, such as one expects to find in miliaria; the lesions on arm he considered lichen.

New York County Medical Society.—Dr. Frank Van Fleet, the retiring president of the County Medical Society, denounced quacks and charlatans and called for a stricter enforcement of the medical laws, at the last meeting held Monday night: "It is high time," he said, "for the medical profession to start in on a campaign of education when the Supreme Court of the United States renders a decision, as it did a few days ago, to the effect that the value of absent mental treatment is a matter of opinion and that the dupes who subject themselves to it as well as those who wax rich practising it have the same rights as those who practice scientific medicine." Dr. Van Fleet said of local conditions: "The District Attorney, with a blare of trumpets raids a gambling house where some idiot has lost a dollar of his inherited wealth and tries to convict of murder on circumstantial evidence, but the knave under the mask of religion is allowed to prey on the sick and helpless with impunity."

Address of New President of County Society.—Dr. Charles N. Dowd, the new president of the society, warned the doctors against impure drugs and urged them to send samples of what they got from the manufacturers and retail dealers to the Board of Health for free analysis. The County Medical Society, the president said, is ready to punish any dealer whose goods are not what he represents them to be. President Dowd also suggested the appointment of a committee to confer with the surgeons of the National Guard for the purpose of securing a better medical service for the State military organization. The society adopted the suggestion and President Dowd appointed this committee: Drs. James Ewing, William H. Park, L. K. Neff, George G. Ward and Albert Brugman.

The County Society and the Coroners.—Dr. Van Fleet introduced a resolution to appoint a committee to inquire into the present movement to organize the Coroner's office. "Do you mean reorganize or abolish?" asked Dr. W. P. Northrop. "Either you like," said Dr. Van Fleet. "I understand that the plan is to abolish the present office and substitute something for it. I don't know anything about the office myself, but introduce this resolution at the request of a prominent public official, a layman." The resolution was passed without discussion and there were no votes in the negative. President Dowd appointed Drs. Van Fleet, John W. Brannan and William M. Polk to inquire about the Coroners and to report at the meeting of the society on Dec. 22.

To Tax Doctors' Carriages.—There is a bill before the Board of Aldermen to tax private carriages $5 a year and physicians' carriages $10 a year. The Law Committee of the County Society has been asked to have the bill amended.

PHILADELPHIA.

Question of Doctor's Fee.—The question as to whether a doctor residing in the same locality as a patient and leaving it can charge a larger fee for attending the patient from his new and more distant residence was passed on to-day in the Supreme Court, when a jury returned a verdict in favor of the physician. The suit was that of Dr. Jacob H. Asch, who sued Charles Goldsmith to recover a bill for medical attendance, in which he charged $15 for each visit paid to the defendant, after the time he had left Arverne, where the defendant continued to reside. Goldsmith contended that Dr. Asch was entitled to a fee of only $3 for each visit, that being the fee charged by him for each visit paid while the doctor was in Arverne.

Mütter Lecture.—The Mütter Lecture of the College of Physicians for 1902 will be delivered in the hall of the college, Tuesday evening, Dec. 2, at 8 P.M., by Major L. A. La-Garde, Surgeon, U.S.A. The subject of the lecture will pertain to wounds by the implements of warfare.

Narrow Escape of Dr. Musser.—Dr. J. H. Musser recently had a narrow escape from serious injury in a collision between his automobile and a trolley car. One of the rear wheels of the auto was caught by the fender of the car and the vehicle overturned. Dr. Musser jumped when the collision occurred and fortunately escaped with only a comparatively slight scalp wound.

Plans for Pavilions Considered.—Assured of early appropriation by Councils the Boards of Charities and Correction have approved plans for six pavilions, each to accommodate 30 consumptive patients, for the Philadelphia Hospital. It is said that eight pavilions could have been erected for the same money one year ago when the project was first considered. The buildings will be of glass and steel 48 by 39 feet and 28 feet high, with a space of 48 feet between them and a plaza 80 feet wide in front of all.

Annual Exhibit of Pathological Society.—The annual exhibition meeting of the Philadelphia Pathological Society will be held in the Mütter museum of the College of Physicians, Dec. 11. It is intended to make this exhibition largely illustrative of surgical pathology and to that end gross specimens rather than microscope exhibits are desired.

Jefferson Maternity.—The tenth annual report of this institution emphasizes strongly the need of increased room. Patients have to be refused because of lack of accommodations, especially respectable married women who would pay for a private room, this class of patients constantly increasing. During the 10 years 2,736 mothers have been treated and 1,770 children born in the institution. During the past year 232 patients in the building and 415 out patients were treated.

Laboratory of The Philadelphia Medical Journal.—This laboratory, under the direction of Dr. Henry Leffmann, aims to furnish at intervals reports embodying practical information for physicians. The work is to originate in the laboratory, or as the result of suggestions, and no commercial analysis will be made. The first contribution is a report on the commercial forms of hydrogen dioxide.

Resolutions on the Death of Dr. Hughes.—The Board of Charities and Correction have passed the following resolutions:

"Whereas, The board has heard with deep regret of the death of Dr. Daniel E. Hughes, chief resident of the Philadelphia hospital for the past twelve years;

"Whereas, He has during this time discharged his arduous and responsible duties with fidelity and singleness of purpose of alleviating the ills of the sick and unfortunate ones under his care; therefore, be it

"Resolved, That this board place on record the fact that they have lost an able, conscientious and faithful official, one who was courteous to his associates, kind and considerate to his subordinates, devoting faithfully his time and experience to the sick.

and discharging his duties with honor to himself and to the department."

The position of instructress in music for the insane, with a salary of $1,000, has been created for the widow of Dr. Hughes who has performed faithful service in the institution.

Home for Aged and Infirm Deaf.—Property has been secured, and a home under the above name incorporated, in Doylestown as the result of a movement originated in this city by the graduates of the Pennsylvania Institution for the Deaf and Dumb at Mount Airy. The officers are Robert M. Ziegler, president; J. A. McIlvaine, secretary; Frank W. Booth, treasurer. The home will be dedicated and opened for the reception of inmates Dec. 1.

Nonsuit in Damage Case Against Streetcar Company.—Judge Davis has confirmed the nonsuit in the case brought by Henry Bainbridge against the Union Traction Company. Bainbridge is seventy-one years of age and while on a car signaled the conductor to stop at Sixty-third street and stepped down on the running board while the car was in motion. Before the car reached the stopping place he was jolted off into the street and injured. The suit for damages brought by him was dismissed on the ground that he had been guilty of negligence. This was sustained by Judge Davis, who affirmed that there was no accident by any of the means of transportation in this case, as none of the seated passengers were injured. This decision is interesting in view of the hundreds who ride on the steps of crowded cars during the busy hours of the day.

New Lancaster Hospital.—The corner stone of the new Lancaster General Hospital was laid Nov. 23 with Masonic rites, the idea of a general hospital having originated with a local secret society a number of years ago. The hospital will be 90 by 180 feet in size, of colonial architecture, and built of Indiana limestone and dark mottled brick. Flourishing auxiliaries of hospital are now in existence in several parts of the country, under the auspices of women.

Cyst of the Cerebellum.—This case was reported at the Philadelphia Pathological Society Nov. 13 by Dr. Joseph McFarland. The patient from whom the specimen was removed was a man of twenty-four years, who had had otitis media during the course of an infectious disease of childhood. For some time he had been dull and finally developed severe headache accompanied by noises in the head. The latter were heard not only by the patient but by others as well. Aneurism of a vessel at the base of the brain was diagnosed and the left carotid artery ligated. This improved the man's condition, the headache and noises disappearing. Later they returned, he entered another hospital where aneurism was again diagnosed and the right carotid ligated. This brought temporary improvement but some time after the patient died rather suddenly after showing a very high temperature. Autopsy revealed a cyst the size of a hen's egg in the right hemisphere of the cerebellum. It contained a straw-colored fluid and in one part of the wall was a growth which proved to be an angiosarcoma. The origin of the cyst is supposed to have been an abscess which formed during the otitis media. Nothing was found to explain the peculiar noises present for some time before death.

Pulsating Hemothorax.—This case was reported by Dr. Joseph Sailer. The patient was a muscular young colored man who some time after admission to the hospital developed symptoms of a large pleural effusion on the left side. Exploratory aspiration showed the fluid to be blood. The heart was displaced to the right only to a small degree. When the fingers were placed under the margin of the ribs on the left side a distinct pulsation could be felt. Autopsy revealed a saccular aneurism of the ascending and transverse portions of the arch of the aorta that was 12 cm. in width. It had ruptured into the left pleura which contained 2,800 c.c. of blood, about two-thirds of which was clotted. The slight displacement of the heart was explained by the presence of a universally adherent pericardium.

The Immunization of Cattle Against Tuberculosis.—Dr. Leonard Pearson detailed briefly some experiments made in investigating the above question. Two animals were injected with a standard culture of human sputum tubercle bacilli. One killed some time afterward showed no tubercular lesion. The other was inoculated with five c.c. of a culture of bovine tubercle bacilli and killed eight months afterward. Extensive deposits of fibrin was found on the abdominal organs but no tubercles were demonstrated. Four animals were then selected, two of them being vaccinated with tubercular cultures and the other two used as controls. All of them were then inoculated with cultures of virulent bovine bacilli and after some time killed. The first two were free from tuberculous lesions. The others contained lesions, including abscesses containing cheesy pus at the site of inoculation, tubercles in the lungs, etc. The conclusions reached from the few experiments made are that after intravenous injections of cultures of human tubercle bacilli the resistance of cattle against tuberculosis is increased. After the intravenous injection a large amount of bovine tubercle culture will be withstood by these animals when the death of unprotected animals will be caused. Experiments will be made to determine the duration of this immunity.

The Pathology of the Lesions of Gonorrhea.—Dr. John G. Clark spoke very briefly on this topic at the Section on Gynecology, Nov. 20. He mentioned the peculiarity of the gonococcus in that it is one of the organisms most difficult to cultivate and is generally claimed to be superficially placed in the mucous membrane of the locality it inhabits, though there is some dispute as to whether the latter is correct or whether the organism extends deeply into the muscular tissue. Pathologists, however, hold that it is superficial and from this fact and its difficulty of cultivation one would suppose it to be easily destroyed but instead it is one of the most difficult. It is an organism that survives its own toxin. It may become latent in the female but give rise to a virulent ophthalmia in a newborn child from such a parent.

The Treatment of Gonorrhea in Women.—Dr. William Small read a paper on this subject. For acute urethritis seen within 48 hours an abortive treatment may be tried. The physician should use a 20-per-cent. solution of argyrol daily allowing it to remain in the urethra for five minutes. In addition, the patient is given a five-per-cent. solution to use three times daily. When seen after 48 hours has elapsed, use the five-per-cent. solution four times daily, apply a 20-per-cent. solution to the bladder, and finally use zinc and hydrastis. In chronic cases, for anterior urethritis use pure ichthyol injections For involvement of the middle urethra, use the sound, massage, argyrol, and silver nitrate. For posterior, dilate the sphincter, make applications and give urotropin. When the cervix uteri is involved. used argyrol, etc., and pure carbolic acid and the curette, when other means fail. In the discussion, Dr. Richard C. Norris said that he had tried the newer silver preparations and now uses an ichthyol compound of silver for routine work. Protargol for babies' eyes is not so good as Crede's method. The curette has not accomplished much in gonorrheal endometritis and he has abandoned it. Curetting will do for involved glands but the endometrium is too much like the male urethra, and curetting of it is not advised. The after-effects of the disease are more severe after the use of the curette. Dr. J. G. Clark emphasized the statements of Dr. Norris as regards curetting. In one case he removed a pus tube and curetted the uterus through the opening thus made and applied formalin. The discharge lessened for a time but has since greatly increased. He would use the curette only in the most chronic cases where all other means had failed and the tubes were involved, and then only, as a means and not as curative. He has applied formalin to the endometrium in a few cases. This is very painful to the patient and has not given very satisfactory results. Dr. John C. Da Costa finds the older treatment still the best, and treats as an inflammation of mucous membrane elsewhere, mildly at first. Zinc acetate, two or three grains to the ounce, is applied and methylene blue or urotropin given internally. When chronic, the urethra is swabbed with fluid extract of hydrastis. This treatment is painful but it cures. In the vagina use silver nitrate, one dram to the ounce, neutralizing with salt solution if necessary. One or two applications will cure. He uses the curette in the cervix but not in the body of the uterus.

CHICAGO.

Surgical Shock.—Dr. George W. Crile of Cleveland, Ohio, recently read a paper before the Chicago Pathological Society on this subject. He said that surgical shock is an exhaustion of the vasomotor center. Neither the heart muscle, nor the cardio-inhibitory center, nor the cardio-accelerator center, nor the respiratory center is other than secondarily involved. Therapeutic doses of strychnine are inert, physiologic, dangerous or fatal. If not fatal, it is followed by exhaustion. There is no practical distinction to be made between external stimulation of this center, as in injuries and operations, and internal stimulation, as by strychnine. Each in sufficient amount produces shock, and each, with equal logic, might be used to treat the shock produced by the other. The blood does not tolerate much dilution with saline solution. Its volume, then, can be increased but little by saline infusion. Elimination takes place through the channels of absorption. It accumulates in the splanchnic area, and if in sufficient amount, the diaphragm and the ribs become fixed, and death is caused by respiratory failure. Saline solution, then, has a strictly limited field of usefulness. Adrenalin acts upon the periphery. Adrenalin will raise the blood pressure in normal animals in every degree of shock; with the medulla cocainized, or in the decapitated animal. It is rapidly oxidized, by the solid tissue and by the blood. Its effect is fleeting; it must therefore be given continuously. By this means the circulation of a decapitated animal was maintained 10½ hours. The pneumatic suit provides an artificial peripheral resistance, and gives an absolute control over the blood pressure within a range of 25 to 40 mm. mercury.

Ventrofixation, Pregnancy, Inversion of the Uterus, Death and Postmortem.—At a recent meeting of the Chicago Medical Society Drs. Wm. E. Holland and Byron Robinson presented a case of ventrofixation followed in two years by pregnancy, which proceeded to full term. There was a short normal labor and delivery. Death occurred 3½ hours postpartum. Postmortem examination revealed complete inversion of the uterus. The uterine circulation was injected in situ with red lead, the uterus removed, and an X-ray of the specimen secured. The authors presented observations and deductions concerning the relation of the ventrofixation to inversion of the uterus.

Gravity of Bronchitis in Elderly Men and the Safety Valve Action of Relative Tricuspid Insufficiency.—Dr. Robert H. Babcock read a paper on this subject, in which he reported a case, and drew the following deductions: (1) Bronchitis in elderly, although robust, men may readily become chronic. Presuming on their previously good health and vigor, they think they can easily throw off their cold, hence are apt to ignore medical aid until after the bronchitis has become settled and obstinate; (2) the cardio-vascular degenerations so often present and unrecognized in elderly men increase the tendency of bronchitis to become chronic. This is because the stiffened arteries and chronic myocarditis, even though the heart remains potentially equal to the demands of everyday life, tends to the production of pulmonary and bronchial congestion, which, when bronchitis once sets in, renders it less amenable to ordinary treatment. Moreover, the physician who may be consulted is apt to overlook the influence of cardio-vascular changes, and contents himself with prescribing expectorants, whereas he should, at the same time, lessen the congestion by brisk calomel cathartics. He should also in many cases inhibit exercise, and attention to business, and the heart may be relieved of unnecessary strain; (3) Another element of danger in the bronchitis of elderly men is pneumonia. In most cases the bronchitis predisposes to a pneumonia, which may develop after the lapse of weeks or months. There is, however, the possibility that the bronchitis, which sets in abruptly and severely, may be but an attendant or manifestation of pneumococcus infection, and may obscure the signs of pneumonia when this is lobular; (4) a fourth danger lies in the effect of the bronchitis upon the heart. Chronic myocarditis develops so insidiously that one may not always be able to detect it, and cannot foresee how little extra strain may be required to seriously impair its potential strength. Even should pneumonia not ensue, the mechanical strain of the bronchitis, especially if it leads to atelectasis and emphysema, and to repeated violent attacks of coughing, is capable of seriously damaging the degenerated right ventricle, the dilatation of which aggravates the already existing congestion; (5) should such dilatation lead to relative tricuspid insufficiency, this is not to be regarded as a sign of danger per se, since it is in reality a safety valve which for a time protects the ventricle from disastrous overdistention. The tricuspid regurgitation is a criterion of the degree of mechanical strain to which the ventricle is subjected; (6) such safety valve action not only furnishes a brief respite to the patient from the death threatening him, but affords to the physician a little longer interval in which to battle for victory, while it, at the same time, indicates the necessity of relieving dangerous congestion by cathartics, possibly also venesection, and cardiac tonics.

Circular Insanity.—Dr. Richard Dewey reported a case of circular insanity which he had studied clinically, differentially and medico-legally. In this case there were five successive cycles of manic-depressive psychoses which occurred with considerable regularity. The later phases were more regular, and mental deterioration was gradual. He spoke of a remarkable succession of legal contests which were conducted by the patient himself, the patient subsequently dying of typhoid fever.

Examination of the Brain.—Dr. Thor. Rothstein presented a report covering the examination of the brain in this case, both gross and microscopic. He exhibited drawings and photographs. Examination of the brain disclosed structurally a normal state. The findings were not characteristic of any organic or degenerative change in the brain.

Anchylostoma Duodenale.—Dr. Joseph A. Capps reported a case of *Anchylostoma duodenale*. He gave the life-history of the parasite, described the modes of infection, and demonstrated specimens illustrating different phases of development, and then discussed the diagnosis and treatment.

CANADA.

Appointment.—Dr. Fiset of Quebec has received the appointment of Staff Adjutant of the Army Medical Corps of Canada and will be located at Ottawa.

Montreal Citizens Organizing to Combat Tuberculosis.—A meeting was held on the afternoon of Nov. 20 in the rooms of the Medico-Chirurgical Society of Montreal, for the purpose of considering what steps should be taken to control the spread of tuberculosis in that city. A strong committee was organized with Dr. E. P. Lachapelle as chairman, and on this committee will be associated with him Professor Adami and Dr. A. J. Richer. A public meeting will be called shortly when the Governor-General, Lord Minto, will be present and occupy the chair.

Scarlet Fever in Montreal.—Montreal is likely to be brought to its senses in a very forcible manner with regard to the erection of a new contagious diseases hospital. For years the council has been dilly-dallying with this question, the stumbling block being the desire of the Catholics for a separate hospital from the Protestants. Last winter there was quite an extensive outbreak of smallpox and the Civic Hospital had to be used for the reception of these patients. This necessitated using an ordinary dwelling-house for cases of scarlet fever and diphtheria. The only accommodation Montreal now has for cases of this character can only provide for the handling of 25 cases, without mentioning the new wing at the Royal Victoria Hospital. Already there are 18 cases of scarlet fever in this temporary hospital; and as the disease in a very severe type is gaining headway in the city, it will be important for the council to act and to act speedily if they wish to avert a very severe epidemic.

Montreal General Hospital Quarterly Meeting.—The regular quarterly meeting of the Board of Governors of the Montreal General Hospital was held on the afternoon of Nov. 19. The treasurer presented a financial statement which, while though usual, was not at all satisfactory to the friends of the institution. From it appears that the receipts for the past quarter amounted to something over $17,000 while the expenditure totaled over $23,000. For the first nine months of the current year the receipts have been a little over $67,000 and the expenditure something over $74,500. This indicates the necessity of again appealing to the friends of the institution for financial aid. An anonymous subscription of $3,000 was received during the quarter for the endowment fund. This brings that fund up to $43,500. The report of the medical superintendent showed that during the quarter 743 patients against 720 in 1901 had been treated. In the outdoor department the patients numbered 8,301 as against 7,638 in 1901. The number of patients remaining over three months in the hospital has averaged six.

Committing Sane People to Asylums in Ontario.—The charge has been made by the provincial secretary of Ontario under whose department are the asylums of the province, that within the past few months there have been five persons committed to various asylums in Ontario who were not insane, and therefore, on the advice of the medical superintendents, they had been released. This is a rather serious charge, as it means, if true, that there are 10 medical practitioners in the province who have been guilty of a grievous wrong to their patients. Dr. A. McKinnon of Guelph, a past president of the Ontario Medical Association, has taken up the matter and in a letter to the public press, asks for the proof of the statement that these people were not committed properly, and shoulders upon the provincial secretary the responsibility of an investigation, as if he believes the charge to be true, the matter ought to be brought to the attention of the Discipline Committee of the Medical Council for that body to deal with. It will not do for ten practitioners to lie under so serious a charge without an effort to clear themselves of such a calumny.

Obituary.—Dr. J. A. Ferguson, the hero of the disastrous fire which destroyed the Laurentian Sanatorium at Ste. Agathe des Monts, near Montreal, died at the residence of his brother in Ottawa on the morning of the 19th of October. It is only a few weeks ago since Dr. Ferguson received the Humane Society's medal for conspicuous bravery in rescuing many of the patients at the time of the fire.

GENERAL.

Psychopathic Hospital at Ann Arbor.—Three new buildings are being erected near the university hospital, Ann Arbor. One, the psychopathic ward, is to cost $50,000. The appropriation was obtained from the State Legislature largely through the efforts of Dr. William J. Herdman. The first stages of insanity will be studied here. The State has provided for the maintenance of the ward.

International Congress.—The American Committee of the Fourteenth International Congress of Medicine announces that blank forms of application addressed to the Bureau des Logements in Madrid, forms of application for those who desire to read papers at the Congress, as well as other literature bearing on the subject may be obtained upon request from the Secretary of the Committee, John H. Huddleston, M.D., Secretary, 126 West Eighty-fifth Street, New York City.

Long Life to Quackery.—An apotheosis of human credulity has just been pronounced in an important opinion of the United States Supreme Court in the case of J. H. Kelly and the American School of Magnetic Healing of Nevada, Mo., against J. M. McAnnulty, postmaster at that place, to prevent the latter from executing the "fraud order" issued by the Post-office Department against the delivery of mail to that institution. The effect of the decision upon the attitude of the Department in the matter of protecting the mails from fraudulent use practically declares the broad principle "for the public good" to be inoperative where the fraudulent character of the scheme is a matter of opinion and not of fact, and lays down the principle that the efficacy or effect of certain medical or healing treatment is purely a matter of opinion and not of fact and clearly outside the powers of the Postmaster-General to determine. The right of the courts to review the actions of the executive departments in such matters is also established by the decision overturning the present practice.

More Diet.—Dr. Ralph Grace of Battle Creek, Mich., "an authority on health foods," is lecturing on "The Proper Diet." According to The Sun he tells the members of the South Side Club of Chicago that they "must either lose their appetite for ice cream and bonbons or lose their complexion." Hear the old—or exceeding young—dogmatists! The South Side "clubwomen" can tell him that they have arranged a modus vivendi between candy and complexion. Both may be regarded as indispensable. It is probable enough that Dr. Ralph Grace nibbled chocolate on his way home to Battle Creek. Doctors are great fellows to direct the diet of other folks, and a good deal less careful about their own. It is the doctor with a "large plate of wheats" inside of him who is the sternest foe of hot cakes. It is the doctor with a fat cigar case in his pocket who is the quickest to make the foolish, tiresome and uncalled-for remark: "You must leave off smoking altogether."

Intemperance Among Women.—Female intemperance was the subject of a meeting that was held in London recently, writes the Evening Post. Sir T. Barlow, physician to the King, spoken of in our London Letter of recent date, expressed the opinion that among the educated classes the grosser forms of drunkenness had greatly diminished, but the broad fact remained that intemperance was one of the greatest national crimes and one of the greatest hindrances to national efficiency. One of the special features of female intemperance was secret drinking, and among the chief causes of it was lack of occupation, sorrow, and worry, bodily weakness, and the various forms of pain which were temporarily relieved by alcohol. They heard a great deal about heredity as a cause of drunkenness. It was true that there might be some cases of what seemed to be inherited drink craving, but they were sufficiently rare. It was an axiom that drunkenness, though it became a disease encouraged by self-indulgence, and even though heredity played a part as one factor, should be treated primarily and throughout as a sin. Intemperance among women had a striking effect upon the nervous system. The type of illness due to drink resulting in paralysis was much more common in women than in men. The Bishop of London said that, even during the short period of his 18 months' residence in the west of London, he had had case after case brought before him of the ruin wrought among women by alcohol and morphia. The morphia habit seemed to be growing among women, and it appeared that when once the craving was indulged in there were no lies or devices that a woman would not go through to get what she wanted. He also spoke of the enormous mischief done among the working girls of the eastern districts of the metropolis by the "spirit clubs," organizations for the collection of funds to be expended upon stimulants for consumption at Christmas time and upon other holidays.

Some Mythical Plants.—At the last *conversazione* of the Royal Society, says the Evening Post, Prof. Wyndham Dunstan showed a collection of plants used in medicine which are poisonous in the natural state or under certain conditions. Among them were various species of Hyoscyamus, including *H. muticus*, described as "a common weed in the Egyptian desert, probably the Nepenthes of Homer." Thus we have a semi-official pronouncement upon a question much debated. Two thousand years ago, when the professors of the Alexandria University began to read Homer critically, they asked what Nepenthes might be, and we are still speculating—those who feel an interest in such Old World puzzles. Moderns generally cut the Gordian knot by assuming that the poet meant nothing in particular; his account of Nepenthes was just an item in the fairy tale of the Odyssey. Some of those antique commentators mentioned took the same view. But it was and is indignantly rejected by enthusiasts. For them any statement of fact made by Homer represents the belief of the time, if not always a positive truth. He invented nothing in the way of folklore—at most he embroidered. Nepenthes, therefore, was a real drug, which Helen mixed with the wine to cheer her husband's guests. The arrival of Telemachus had recalled the sorrows of the return from Troy, and she would put off care to the morrow. The effect is described in terms which would apply to opium or hasheesh, Indian "bhang" or Siberian fungus. But it would not apply to any Hyoscyamus, unless with extreme exaggeration. Most people will think, however, that this is not a grave objection. In historic times the Greeks used Hyoscyamus as an anesthetic—experts have identified it among the interesting records of "cases" discovered some years ago in the ruins of the Temple hospital at Epidaurus. The British variety of the plant was appreciated by "wise women" and herbalists, especially at childbirth. The Egyptian species is more effective, no doubt, since we are told that it is "now exported for making hyoscyamine, used in medicine"; and Homer states that Helen had learned the virtue of her potion in Egypt. There is another bit of evidence. Sir Henry Halford first suggested Hyoscyamus, because he observed that the drugsellers of Constantinople call the plant "Nebensch." Certainly that word is as like "Nepenthes" as could be expected at the present day if derived from it. In the Morea, also, it is the recognized name of Hyoscyamus. Perhaps we may take it that the little problem is solved. But it is not to be hoped that the amiable fanatics who have an odd explanation of their own devising, such as tea, coffee, or improving conversation, which have actually been urged, will accept this easy solution. But Homer left us another puzzle of the same sort, even more renowned. What was his Lotus, or what did he mean? If the incident be metaphorical, there is, of course, a boundless field for speculation; some critics who have interpreted it in that sense abused their privilege, all the same. But ordinary mortals take it for granted that Homer was referring to a substantial fruit of some kind. The ancients thought Lotus such a blessed word that they bestowed it on a tree, a shrub, an herb, and an aquatic; resolved, perhaps, to identify the genuine article in one class of vegetables or another. Three of these titles we still recognize, but applied to a species only. The aquatic, however, *Nelumbium speciosum*, is not to be seriously considered, and the herb is no less than ridiculous. In Switzerland it is valued for flavoring the eccentric cheese called Schabzeiger—what a fall!—from the epic to the cheese press! The fruit of the tree is not regarded as edible nowadays. The shrub, however, remains, and this it was, no doubt, which Homer had in his mind.

Changes in Medical Corps of the U. S. Navy.—Week ending November 22, 1902. Surgeon W. R. DuBose, ordered to the navy yard, League Island, Pa., for duty in connection with fitting out the Maine, and ordered to the Maine, when that vessel is placed in commission. Passed Assistant Surgeon T. W. Richards, detached from the bureau of medicine and surgery, Navy Department, and ordered to the Arkansas. Passed Assistant Surgeon E. O. Huntington, unexpired portion of sick leave revoked; ordered to the naval hospital, New York, N.Y., for treatment. Passed Assistant Surgeon W. H. Bucher, sick leave extending one month. Assistant Surgeon C. M. Oman, detached from the naval station, Cavite, P. I., and ordered to duty at Port Isabela, P. I.

Dental Inspection of Schools.—In certain schools in Denmark periodical inspection of the scholars' teeth is made. A movement is also on foot in Germany to obtain such inspection for school children; though in that country gratuitous treatment is given the diseased teeth of those attending the lyceums.

War Upon the Plague in Odessa.—To check the propagation of the plague through rats, the municipal authorities of Odessa have made the extermination of those animals obligatory to all householders. To further this end, the Bacteriological Institute of Odessa offer, for 60 kopecks (2 francs), half a liter of a culture of rat-septicemia, sufficient to impregnate a kilogram of bread; this is to be given gratuitously to the poor, upon a physician's order.

Mental Status of Mendicants.—A recent study in Breslau of 400 mendicants has brought out the following points: In one-half of the cases the existence of neuropathic hereditary influence was proven, such as alcoholism (29 in 100), epilepsy, hysteria and various psychoses. Intellectuality was found to be very low, 53 in 100 not having attained primary instruction. In one-third of the cases, arrested development, congenital or post natal, was found, with imbecility and epilepsy. Acquired maladies were noted in the proportion of six in 100, prominent among which was general paralysis. The greater part of the subjects examined were habitual drinkers, and chronic alcoholism was seen in 60 out of 100.

A Large Fee Offered to Dr. Lorenz.—Dr. Lorenz, the Vienna surgeon, left St. Louis Monday for Chicago, where he will examine Miss Lolita Armour again before going on to New York. John Kearney, editor of the Modern Miller, offered the specialist, in the name of a wealthy St. Louis business man, any sum he would name to remain in St. Louis a few days longer. Dr. Lorenz, through his assistant, Dr. Mueller, replied that he could not stay here any longer, even if $100,000 should be paid to him. The Vienna surgeon examined 50 children and recommended his treatment in the majority of cases. All the children on whom he has operated while here, he says, should be cured eventually.

Monument for Rudolf Virchow.—The German Committee in charge of the celebration in honor of Rudolf Virchow's eightieth birthday, Prof. Waldeyer, Chairman, Prof. Posner, Sec., has begun colecting funds for the purpose of erecting a monument in memory of that great and unique man and physician. The undersigned are anxious and ready to receive contributions which will be duly acknowledged. Frank Billings, President of the American Medical Association, 100 State St., Chicago, Ill.; Thomas D. Coleman, 505 Green St., Augusta, Ga.; A. Jacobi, 19 East Forty-seventh St., New York City; W. W. Keen, President of the Congress of American Physicians and Surgeons, 1729 Chestnut St., Philadelphia, Pa.; Wm. H. Welch, 935 St. Paul St., Baltimore, Md.

Obituary.—Dr. Frank Livermore, who died in this city last week, was a graduate of the University of Paris, of the class of '68. He was a member of the Reform, New York Athletic, and University of Paris Clubs, and the Century Association, and of Lafayette Post, Grand Army of the Republic.

Major Walter Reed died last Sunday at the Army General Hospital, in Washington. Major Reed was born in Harrisonburg, Va., and entered the army in June, 1875, as an assistant surgeon. He was a graduate of the medical department of the University of Virginia and of the Bellevue Hospital Medical College of New York. In the Spanish-American War he was a member of the commission which investigated the cause of the typhoid fever epidemics in army corps of the United States. In 1900 he went to Cuba to make a study of yellow fever, and as a result of exhaustive observances and experiments he became convinced that the mosquito was the generator of yellow-fever germs. His official report on the subject demonstrated to the satisfaction of the medical department of the army and medical men generally that his theory was correct. Major Reed's proof of the truth of Finlay's early conjectures created a great sensation in the medical world, as up to that time it was believed that yellow fever was contagious.

Major Reed has been regarded as one of the half dozen most prominent bacteriologists in the world. Since his return from Cuba he has been stationed at the Army Medical Museum as curator, and has also been professor of bacteriology and pathology in the army medical school and lecturer on those subjects in the Columbian Medical College of this city.

Major Reed was fifty-one years of age. He became ill eight days ago, and on Tuesday last was operated upon for an abscess of the vermiform appendix. From this operation he never rallied. The Evening Post gives the following appreciative comment:

"By the death of Major Walter Reed of the Medical Department, both the army and the science of medicine have suffered. A bacteriologists of note, his researches in Havana into the transmission of the yellow-fever germs by mosquitoes led to the first positive establishment of a theory which had for some time been under investigation both here and abroad. His demonstration of its correctness was one of the greatest triumphs of medical science. Working with Major Gorgas, Major Reed was able to purge Havana of the dread disease which had scourged it for centuries, and had made it a menace to neighboring nations; indeed their joint work is perhaps the most creditable American achievement in Cuba.

In the course of his experiments, Major Reed showed himself one of the true heroes of peace, and risked his life freely in the pursuit of truth and knowledge, in the search for which a comrade, Dr. Jesse W. Lazear, gave his life. To a similar investigator, also a military-medical man, Major Ronald Ross ot the Liverpool School of Tropical Medicine, will be awarded, it is reported this morning, the Nobel Research Prize of $15,000. Much as Major Ross has done in the investigation of malarial fevers, nothing that he has discovered is comparable, so far as immediate practical results are concerned, to the achievements of Major Reed. It seems a contradiction in terms that an army officer should deserve fame for saving human lives, but there can be no doubt that Major Walter Reed's name should be placed high upon the army's roll of honor for all time. In Europe, decorations, a title, pecuniary rewards, and scientific distinctions of all kinds would have been showered upon him. Here the recognition of his fellow scientists was Major Reed's sole reward, save the consciousness of having added his quota to the sum of human knowledge."

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, November 15.

BIRTHDAY HONORS—THE DESCENDANT OF A MEDICAL BARONET IN THE WORKHOUSE—THE X-RAYS AS A CAUSE OF CANCER—HISTORIC CASES OF LARYNGEAL SURGERY—THE ESTABLISHMENT OF A BRITISH HOMEOPATHIC ASSOCIATION.

The list of "Birthday honors" appeared on Nov. 10, and the medical profession is considerably disappointed at the meagerness of the recognition accorded to its members. Few doctors of any kind have been decorated, and among them are only two whose names are known even to local fame. Moreover, the decorations given are not only poor in quantity, but the reverse of brilliant in quality. Mr. Power, Principal Medical officer to the Local Government Board, who has been made a Companion of the Bath, is a first-rate official and has done much laborious research work as to the influence of smallpox hospitals on the dissemination of the disease in their neighborhood. To him we owe the theory of aerial convection which is now the official creed of the Local Government Board, which, whoso, etc., *anathema sit.* The decoration, which carries no title with it, is almost an insult to such a man. What the aristocracy thinks of it may be gathered from the following passage which I have come across in a book just issued. The author is Mr. G. W. Russell, a scion of the ducal house of that name and he is speaking of the old-fashioned Whigs among whom he was brought up:

"The idea of buying a baronetcy would have been thought simply droll, and knighthood was regarded as the guerdon of the successful grocer. I believe that in their inmost hearts the Whigs enjoyed the Garters which were so freely bestowed on them, but they compounded for that weakness by unmeasured contempt for the Bath."

It must seem to you passing strange that any human being should care to have the privilege of appending the letters "C.B." to his name, for a simple decoration, is not like a title which at any rate has a commercial value among those whom Warburton called the "better vulgar." Dr. F. W. Hewitt who gave the King the anesthetic at the operation performed by Treves in June has been made a Member of the Fourth Class of the Royal Victorian Order. There is, I believe, a Fifth Class of this illustrious Order which, it is said, the King not long ago bestowed on his bootmaker. It must, therefore, be a consolation to Dr. Hewitt to reflect that the King might have delighted to honor him even more cheaply than he has actually done.

Almost coincidently with the announcement of the Birthday Honors comes a sad tale which may serve as a commentary on the futility of such distinctions. Part of the story is told in the following extract from the St. James's Gazette of November 14:

"The Settlement Committee of West Ham Guardians have reported upon the cause of Sir W. G. MacGregor's destitution. His father died suddenly, and there were no settlements on the title. His occupation was formerly that of an Army tutor and family companion, but of late years he had been dependent upon a brother, a brigadier-general in the Indian Army, who died in June last, and at whose death the allowance ceased. None of Sir William's relatives are legally liable for his maintenance, but he has three sisters, one of whom is endeavoring to make arrangements for his discharge from the workhouse in about three weeks' time."

This is the end of an "honor" bestowed by a former sovereign on a member of the medical profession. Nowadays it is customary before a hereditary dignity, such as the baronetcy is, to ascertain whether the person whom it is proposed to honor is able and willing to settle on his eldest son a sum sufficient to enable him to maintain his rank. I do not know that there is any fixed rule as to the amount, but it is generally understood that enough to yield an income of $10,000 a year is required. It is not many, even of the most successful, physicians or surgeons in this country who can do that. Hence baronetcies are more freely given to men who, like Sir Frederick Treves, have no son. Sometimes a baronetcy is offered but declined for financial reasons. To a knighthood no such hampering conditions are attached, but it is not generally known even in this country that for the plain title of "Sir" not transmissible to posterity, fees to the amount of more than $750 have to be paid. I know of a case in which the honored one had to ask for time to pay the dues before he could accept the dignity. Part of these fees go to the Crown, but the greatest part of them is shared by officials of the Heralds' College and other fossil remains of the feudal system.

The death of Dr. Blacker who cured the King of a rodent ulcer and soon afterwards himself died of epithelioma was even more tragic than in a previous letter it was described to have been. There appears to be reason to believe that the disease which caused his premature death was due to X-ray dermatitis. While manipulating the apparatus he is said to have received a severe burn on one of his fingers; the dermatitis gradually spread up the arm, and in its track malignant growths developed, first near the elbow and afterwards in the axilla, finally involving the whole of the shoulder. Amputation at the shoulder joint was contemplated, but the rapid extension of the disease deterred Sir Frederick Treves from attempting operative intervention. I hear that this is not the only case in which the origin of malignant disease has been traced to the X-rays.

The recent death of Eugen Hahn, the Surgical Director of the Friedrichshain Municipal Hospital, Berlin, recalls a famous case in the history of laryngeal surgery. In 1885, Mr. Montagu Williams, an English barrister, whose services were most eagerly sought for in every criminal trial, began to suffer from gradually increasing hoarseness. He was for some time under the treatment of the leading specialist in throat disease of that day, but his voice continued steadily to fail. In April, 1886, having by that time become almost aphonic, he consulted Dr. (now Sir) Felix Semon, who found a growth having the appearance of a papilloma springing from the left ventricle of Morgagni and completely covering the vocal cord on the same side. Microscopic examination of a fragment removed with forceps seemed to show that it was a simple papilloma; but the examination of a fragment removed a few days later proved that it was an epithelioma. Mr. Montagu Williams, in a book entitled "Leaves of a Life," which he afterwards wrote, gave a thrilling description of his feelings when the true nature of his ailment was made known to him. He decided, however, at once to place himself in the hands of the surgeons, and on being shown the statistics of various surgeons who had performed an operation which was then in its infancy, he picked out Hahn from the list, saying "That is my man!" Accordingly Hahn came to London and performed what proved to be one of the most successful operations of the kind on record. Montagu Williams recovered his voice to such a degree that he thought of returning to his work as an advocate. From this he was dissuaded by his advisers, but he accepted the office of police magistrate in London, a position which necessarily involves a considerable use of the voice under somewhat trying conditions. He was a most active and successful magistrate till he became disabled by organic heart disease, of which he died more than six and a half years after the operation, without a trace of recurrence of the cancer in the throat. Montagu Williams's case was almost identical in nature with that of the Emperor Frederick, which occurred a year or two later, and it is at least permissible to conjecture that had the same operation been performed in accordance with the suggestion of the German surgeons, Frederick the Third might still be seated on the throne of the Hohenzollerns. By an unlucky coincidence the medical oracle of whom Montagu Williams had in the first instance sought counsel in vain was appealed to by the Empress Frederick, and it was owing to his influence that temporizing instead of drastic measures were adopted. For this he was severely criticized not only in Germany but by the medical profession of his own country with whom he had for years been very unpopular. He wrote an *apologia* which brought him under the ban of the Royal Colleges of Physicians and Surgeons, of which he was a member, and a career that might have been a brilliant one, ended in comparative obscurity. It may, however, be pleaded in mitigation that both in his treatment of the case and in the publication of a defence, which was, in fact, a bitter attack on his German colleagues, he was directly instigated by the Empress Frederick. She considered it of the utmost importance for political and personal reasons that her husband should sit on the throne of Germany if it were only for a single day; and she was convinced that if he were left to the mercies of surgeons whom she believed to be mere tools in the hands of Bismarck, he would not leave the operating table alive. The English physician who risked his reputation and even his professional existence in the service of a member of our own Royal family soon learned to realize the meaning of the advice "Put not thy trust in Princes." Till the fatal book appeared he was in favor with our present gracious sovereign who condescended to consult him about his own august throat, and assured him that he did not drink as his brother "the Duke" (of Saxe-Coburg) did. But when the storm broke he was at once thrown overboard, and no further notice was taken of him.

A British Homeopathic Association has recently been formed "for the Extension and Development of Homeopathy in Great Britain." The circular announcing this important fact after pointing out that "hitherto no national organization has existed for the furtherance of national requirements in the extension of British Homœopathy or for keeping pace with the increasing modern necessities for the development of Homeopathic Science and Art" goes on to say that "at present the number of homeopathic medical men in Great Britain is far below the demand." "This factor," it is added, "is the most serious in the existing situation." From the homeopathic point of view it is certainly serious, for it means in plain language that the homeopathic cult is languishing into decay. The statement that the demand for homeopathic practitioners is far greater than the supply shows that the homeopathic brain is as impervious to political economy as it is to rational medicine. The aim of the Association is to found a medical college for the systematic training of medical men in the practice of homeopathy, and to establish an examining body of their own. They wish, in fact, to cut themselves completely adrift from the orthodox profession. I see that the Bavarian Government, under the influence of a retrograde minister, is contemplating the foundation of chairs of homeopathic medicine in the universities of that kingdom, and it would be rash to predict that the Homœopathic Association here may not succeed in its aims. The prophet Hahnemann has many disciples, chiefly among peers and parsons, in this country. Homeopathy, however, is not a subject on which a British Government is ever likely to stake its existence; and the British public will not easily be roused to take an active interest in its cause.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

EXOPHTHALMIC GOITER—PREVENTION OF TYPHOID FEVER IN ARMIES—A STRANGE CASE OF POISONING—A NEW OPERATION FOR UMBILICAL HERNIA—LEUCOCYTOSIS IN RICKETS—KRAUROSIS VULVÆ—AN UNUSUAL CASE OF UMBILICAL HERNIA.

The meetings of the medical and scientific societies of Great Britain during the past month listened to a number of very important papers. From the many the following few are given in abstract for the interest of our readers:

G. R. Murray, at the Royal Medical and Chirurgical Society, Oct. 28, 1902, made observations on exophthalmic goiter, based on 120 cases—110 cases were women and 10 were men, or a proportion of 11 to 1. The onset was nearly always insidious, and the age of onset was therefore difficult to determine, but the disease had most frequently started in the earlier decades of life, the greatest liability to the disease existing between fifteen and thirty-five years of age. In some of the cases there was a history of the complaint in the family, but this was not invariable. Recent events producing powerful emotions had acted as exciting causes in some cases. The first symptom most commonly noted was the thyroid enlargement. In one case the goiter had been present 34 years and in another 32 years before the onset of other symptoms. In 27 cases the enlargement was noted as "slight" in 36 cases as "moderate" and in 20 cases as "considerable." The frequency of the pulse was distinctly increased in all the cases, in half the cases it was between 120 and 150 per minute. Cardiac murmurs were often present, and the different varieties of murmur were referred to. Exophthalmos, though usual, was absent in one-quarter of the cases. Restlessness and various nervous symptoms, such as suppressed excitement, hallucinations and excitement and insomnia were also frequent. Paroxysmal exacerbations of these and other symptoms occurred in a considerable number. In 76 of the cases an unusual dampness of the skin was noted. Rapid respiration was met with in some instances. Diarrhea or an increased frequency of defecation was by no means uncommon. The condition of the urine was only noted in 19 cases, and in four of them there was a trace of albumin. The prognosis of the disease was uncertain. The course, as a rule, was very slow, but two rapid cases were referred to, one of which died. Out of 40 cases seen from time to time, seven died, two remained stationary and 31 progressed favorably. The treatment was briefly referred to. Rest in bed was advocated, and the Weir-Mitchell treatment was stated to be of great service. Faradic electricity gave relief and in some cases resulted in improvment. Dr. Murray had been disappointed in the use of belladonna. Extracts of thymus and suprarenal glands had both been of service.

Dr. H. E. L. Canney read a paper on the Prevention of Typhoid Fever in Armies before the Medical Society of London, Oct. 27, 1902. It is well-known, he said, that the diseases which decimated armies were those which affected the intestinal tract—typhoid fever, dysentery, cholera and diarrhea. The evils incidental to these diseases had been to a large extent tacitly accepted as unavoidable by the War Office and the public. Instances of this apathy were given. The present communication was limited to the subject of typhoid fever and the conditions under which the disease was conveyed were discussed. The bacillus could not, as a rule, be recovered from the dry soil after an interval of from 20 to 30 days or after a fall of rain. That dust or flies could give rise to an epidemic of typhoid fever in a camp with properly organized latrines was highly improbable. Nor could the theory of contagion be maintained, though the disease often spread to attendants on the sick. The main avenue of the introduction of the bacillus into the human body was undoubtedly the water-supply. No scheme of prevention could be made efficacious which did not include a very thorough reform in the water-supply of armies. So important was this that it was necessary to rouse the interests, or even the enthusiasm of all concerned, the common soldier, his officers, the War Office, and the public, in order to secure this end. Epidemics of enteric fever at Suakin, Quetta, in Egypt, and other places were referred to, and the improvement which had taken place in the death-rate in various places when the water-supply was improved were quoted. The conclusions which Dr. Canney had arrived at were that the weight of evidence from India, Egypt and South Africa was in favor of the paramount importance of the water-supply in the production of typhoid fever, especially at the onset of epidemics, and that the spread of the disease by the subsidiary channels—flies, dust and contact—only become factors of any importance under conditions of the grossest neglect of sanitation. An instrument was exhibited by which it was claimed 50 men could be supplied in nine mniutes with as much sterilized water as they could drink.

Dr. Macalister, at the Liverpool Medical Institute, Oct. 23, 1902, related a case of Strange Poisoning in an Attempted Suicide. The patient was an elderly man who swallowed a teacupful of what he thought to be crude carbolic acid. It was a non-corrosive disinfectant, having an odor resembling creolin, and the symptoms which it produced were abdominal pain, congestion and cyanosis of the face, drowsiness and mental hebetude. The patient had considerable difficulty in understanding what was said to him. The heart and lungs were normal. The pulse was 90, regular, but small. The respirations were 24. On the day following his admission it was noted that his complexion was dark, and of an olive green tinge. The breath had a creolin-like odor. His drowsiness continued in a lesser degree. No blood was evacuated either from the stomach or the bowels. The urine was now very dark in color (like porter); it contained no albumin and was of specific gravity 1.029. The elimination of this foreign substance took place through the kidneys and the urine, after remaining very dark for three days gradually became lighter and lighter in color, the specific gravity falling with the diminished coloration. It was always acid, never contained albumin, never seemed to have any irritative action on the renal epithelium. The interest of the case depended on the fact that the man's blood was drenched with an antiseptic which took six days to become entirely eliminated, and the urine which he passed had remained undecomposed and entirely free from micro-organisms, although it had been lying tightly covered in a wide-mouthed bottle for 13 months. Dr. Macalister suggested that there were some diseases in which they would like to saturate the blood in this way, and if he could be certain of the nature of the substance which this man took with the purpose of doing himself a grievous harm, he would feel very much inclined to administer it in considerable doses. Unfortunately the patient had carefully washed out the vessel which had contained the poison and which had been lying unlabeled in his possession for a long time, and it was impossible to obtain any certain evidence concerning its nature.

T. Thomas read a paper on an Operation for Umbilical Hernia. He used the transverse incision and always incised the greater part of the skin covering the hernia. The neck of the sac was now freed and the sac explored through an incision near the exit from the abdomen. The omentum was at once tied off and the stump returned into the abdomen; a free cutting up of the hernia was next easy and bloodless. The gut was next dealt with, and the sac containing the adherent omentum cut off. The stump of the sac was clamped in a transverse direction and closed by continuous silk suture, leaving at each end a length of silk. A place was prepared for it in the extra-peritoneal tissue above the aperture in the linea alba, into which it was drawn by threading the silk ends through the abdominal aponeurosis and suturing them finally into the aponeurosis. The aperture in the linea alba was drawn taut in a transverse direction by strong tractors, the margins were notched freely with scissors, and held together by mattress sutures, so that the suture line was transverse. The skin wound was closed transversely and a small glass drainage tube passed through an independent puncture. He had performed the operation in 19 cases, some of large size with recurrence as yet in one only, and in this the silk had been infected during operation and suppuration set in.

Dr. E. Cautley, at the Society for the Study of Disease in Children, Oct. 17, 1902, showed a moderately rickety boy, aged 13 months, with great enlargement of the spleen and some enlargement of the liver. Leucocytosis was a feature of the case. Five weeks of hospital treatment failed to benefit him. He was discharged and quickly readmitted with numerous petechial hemorrhages and numerous myelocytes were found in the blood. He improved and was discharged in six weeks' time. When shown the spleen was still very large, but he was not anemic. Dr. R. Hutchinson thought the case must be placed in that group of anemias associated with the splenic enlargement which was quite peculiar to children, and which might be termed the "splenic anemias of infancy." He had never seen more than from 10 to 13 per cent. of myelocytes in the blood, and when there was a large number of these corpuscles, the patient fared badly. Microscopically, as far as his experience carried him, all that could be seen was a general increase of the fibrous tissue, a condition common to many splenic disorders.

Dr. A. Donald, at a meeting of the North of England Obstetrical and Gynecological Society, Oct. 17, described a case of Kraurosis Vulvæ. The patient was a single woman, aged sixty-two years, who had ceased to menstruate 17 years before. The symptoms, which had existed for two years, had been at first severe pruritis vulvæ, followed by pain at the vaginal orifice. There had been slight loss of flesh for three or four months. Examination of the urine failed to detect sugar. Vulval examination revealed a raised, hard, flattened inner surface of the right labium and extending slightly into the vagina. There was extreme atrophy of the skin and mucous membrane. The external genitals had so shrunk that the vagina would not admit the little finger. The skin was pearly white, and tore readily. The uterus and vagina were found to be double, the septum extending to the hymen, which was intact. The whole of both labia, including the nodule, were excised. Dr. Donald remarked on the rarity of the disease, and on its diagnosis from senile atrophy and pruritus vulvæ. It also seemed to have some relation to malignant disease. Microscopical sections were shown.

Dr. E. S. Bishop, at the meeting of the Clinical Society of Manchester, Oct. 21, 1902, presented notes of a case of large Umbilical Hernia, radically cured by an operation in April, 1901. The points of interest in the case were, first, the length of time, 17 years, during which the hernia had existed, the adhesion of a large portion of the transverse colon to the sac into which it had been extruded, and the capacity of the abdominal cavity to receive and retain it after reduction; and, secondly, the method of closure of the large opening by union from above downwards, instead of from side to side. This maneuver improved at the same time a marked enteroptosis. Mr. Bishop also showed a patient upon whom Radical Cure of Inguinal Hernia had been performed by him 11 years ago. The patient had since entered the army and had served in India for several years, during which time no support of any kind had been worn. The result was perfect at the present time. Mr. Bishop emphasized again the prime necessity of excluding the true causes of chronic hernia, which are never produced by accident, before operation, in such cases, if a permanent result is to be obtained.

OLFACTORY AURA IN EPILEPSY.

To the Editor of the Medical News:

Dear Sir: On reading the discussion before the New York Academy of Medicine in the News of 25th inst. as the "Essential Symptoms of Epilepsy," I thought it might be interesting to mention a case that has been under my observation for years showing that suddenness is surely not an absolutely essential symptom. I have had under observation for years a man who can tell for a week or ten days previously of an impending attack of epilepsy by an olfactory aura, frequently described as the smell of pitch or tar. The intensity of the smell increases till almost unbearable, when violent epileptic attacks supervene, followed by post-epileptic mania lasting for days and sometimes weeks.

The patient was rather advanced in years when the attacks began but is still living, although somewhat mentally weak.

Until age prevented he could do hard work as a blacksmith during the intervals, sometimes lasting for months. Joseph Benson, M.D.

Chatham, N. B. (Canada).

RESTRICTION OF TUBERCULOSIS.

To the Editor of the Medical News:

Dear Sir: Replying to Dr. F. C. McGahey's plea for the non-restriction of consumptives, under the title "How Much Do We Positively Know About Tuberculosis?" in your issue of Oct. 1, allow me to point out to him part of the first abstract on page 697 of the same issue. "....Hoffman, who found the tubercle bacillus in the dejecta of flies from the wards of a hospital for tuberculous patients, and who subsequently produced tuberculosis in animals by inoculation of a triturated preparation of such flies."

It seems to me that we positively know the following regarding tuberculosis: (1) The disease is caused by a definite bacillus; (2) this bacillus is uniformly found and usually in enormous quantities in the discharges from tubercular foci; (3) the bacillus requires no intermediate stage of preparation after leaving the body, before it becomes infectious; (4) while certain species of animals are apparently absolutely immune, and while there are some experiments that suggest that, in some conditions, one species of animal can not be infected by tubercle bacilli from another species—or. a fortiori, from another genus or larger group—there is absolutely no question that human beings are susceptible to bacilli from human sources.

All writers who take the stand assumed by Dr. McGahey practically demand that the bacteriologist, examining the sputum or other infected discharge from John Doe shall demonstrate a tag on the bacilli, bearing the words, "I came from Richard Roe's lung." It is not to be expected that the exact, personal source of tuberculosis, a common, air-borne and slowly developing disease, can always or even frequently, be traced to a particular source, as can pregnancy, gonorrhea, measles, scarlet fever and other conditions and diseases. I appreciate most heartily, any display of sympathy for a sick man or woman and for the family. Let us decide once for all whether we shall be governed by such sympathy for the individual case or whether we shall show our sympathy by anticipation, and try to prevent such disasters. Having decided, let us follow the same rule for one infection as for another. A. L. Benedict.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON ORTHOPEDIC SURGERY.

Meeting of October 17, 1902.

George R. Elliott, M.D., Chairman.

Exostoses of Humerus.—Dr. Homer Gibney presented two cases of exostosis of the upper third of the humerus, with X-ray plates. One case, a boy of nine years, showed the growth on the inner aspect of the bone; it had first been noticed two months ago. The second case was that of a little girl, aged eleven years, in whom the growth was on the outer aspect of the humerus, which had first been noticed only five weeks ago. In neither case were there subjective symptoms.

Dr. Samuel Lloyd said that the exostosis cases recalled a case of myositis multiplex progressiva in a boy seven years old, who had inflammation of the tendons of the pectoralis major on both sides and of the teres major and minor. The disease was unilateral. The child came to the hospital with beginning ossification of the sternocleidomastoid on each side. He was regularly treated by thyroid and the ossification disappeared in the tendons in which there had not been complete ossification, but in the pectorales and in the teres there was no improvement. He operated on the pectoralis on the right side to determine the condition and found that the myositis ran along the tendon, spread out over the tendinous interdigitations into the muscle and came down the bicipital groove spreading from the edges of this groove and along the course of the tendon so that the end of the tendon looked like the end of a finger—an absolutely bony exostosis. The tendon broke away from the groove and was dissected out. Inflammatory myositis followed the operation and ossification was expected along that line, but this did not happen. Later the same condition was removed down to the insertion of the muscles and good motion resulted in both arms. When the patient came to the hospital he had no motion except four to five degrees of abduction. He remained in good condition until a short time ago, when a similar condition started up in the thighs which was not arrested by thyroid. The interesting fact in this case was that the tendinous sheaths were involved and the ossification had spread into the tendon itself, but did not include the actual muscular tissue.

Dr. Lloyd, before reading his paper, presented the photographs of a case he had shown last spring, of posterior dislocation of both bones at the elbow joint. The first photograph showed the result of the first operation in which the bones were simply replaced. A second operation resulted in almost complete motion. At the second operation it was found that a good deal of callus had to be chipped away.

Internal Derangements of the Elbow Joint.—Dr. Lloyd read this paper. He said he wished to confine himself to the question of foreign bodies—that is to say, floating cartilages, and the sporting elbow. In his paper before the Section one year ago he had dismissed the question of foreign bodies by referring to three cases operated upon by Koenig, and reported in the *Deutsche Zeitschrift für Chirurgie.* Since then he had operated upon a man aged forty-four years, who, in July last, gave the following history: February last he fell and struck on his elbow. Following this injury, the joint was tender and painful, motion somewhat restricted. In March he fell again, striking on same elbow, and since that time had not been able to use his arm. Examination showed that the left arm was atrophied and motion in elbow joint limited to about 20 degrees. Flexion was restricted, sensation normal. Flexion of arm caused pain and a crepitation was apparent. An uncontrollable muscular spasm followed very slight flexion. It was evident that some body came between the joints and prevented flexion and extension. Two lateral incisions were made, and the joint opened. The olecranon fossa was largely filled up, as though there might have been a callus formation at that point. Lying in this fossa and preventing extension of the arm, a cartilaginous body was discovered which interfered with extension. On the outer side a second body was present; on the anterior portion of the radial joint a third cartilage. These were removed and the joint closed, and the arm dressed in a flexed position was kept in plaster for one week. The patient was discharged with full motion of the joint on the eighth day.

The author said the commonest place to find foreign bodies was in the knee-joint, although they have been noticed in the ankle, wrist and other joints. Those in the knee have been more carefully studied and are usually considered as arising from the synovial membrane or periosteum. The next common place was the elbow-joint. Here they do not always cause symptoms. He cited reported cases to prove this. In the elbow joint the probabilities are that the pathological conditions are somewhat different from the similar condition in the knee and are due to the chipping off of some portion of the joint surface. In three cases that he had observed personally that seemed to be the origin of the body.

The symptoms were usually: First, a chronic synovitis; second, a limitation of motion. This limitation of motion might not be present, as the cartilage might slip out and lie in a groove at the side of the articulation so as not to interfere with motion.

The other subject he referred to in his paper he said had been spoken of under the title of "Occupation Diseases," or "The Lawn Tennis Elbow." He had seen a number of cases in which there was considerable disability and yet no actual disease of the elbow joint. They had nearly always occurred in athletic men and had been noticed more frequently as the result of hard playing of tennis or golf. In two instances the condition was due to an inflammation of the bursa between the tendon of the biceps and the anterior surface of the radius. In another case (a lawn tennis player) the bursa between the skin and the olecranon process was involved; in another the bursa beneath the olecranon; usually the condition is ascribed to a tenosynovitis and not to bursitis; but he believed the latter is the more frequent.

In tenosynovitis we usually get the crepitation diffused along the whole tendon sheath and little or no swelling. In involvement of the bursa, crepitation is not so marked, or may be absent; swelling is present, and fulness can nearly always be felt or seen at the site of most intense pain, and in most instances fluid can be withdrawn by hypodermic needle.

He quoted from Baker a long list of bursæ in the vicinity of the elbow-joint. The only treatment he had found available was absolute rest of the joint, with pressure during the acute stage and counter-irritation of the condition had become chronic.

He preferred counter-irritation with the Paquelin countery. In case of suppurative changes—aspiration, or incision and drainage. He referred to a paper he had read before the Section, April 16, 1897, calling attention to the "Bicycler's Heal" being due to an inflammation of the achillo bursa anterior instead of to a tenosynovitis of the tendon achillis.

Dr. L. A. Weigel showed a number of X-ray pictures of different pathological conditions of the elbow-joint. Other plates shown by him were as follows: Antero-posterior view of the elbow of a boy who had received an injury showing apparently fracture of the olecranon with posterior displacement of the fragments. By making a stereoscopic picture it was found that the fracture was in the condyle of the humerus. Other cases where fracture was made out only after taking X-ray pictures of elbow in different positions.

Dr. Henry Ling Taylor said Dr. Lloyd had contributed valuable information regarding pathological conditions of the elbow-joint. He thought it important that the condition of bursitis should be recognized as its prognosis and treatment is essentially different from that of joint inflammation.

Dr. C. N. Dowd said that while he was familiar with the existence of foreign bodies in the knee joint, he felt under obligations to Dr. Lloyd for calling attention to this condition in the elbow-joint. The possibility of obtaining good results as shown by Dr. Lloyd was very encouraging.

Dr. Royal Whitman asked Dr. Lloyd if in connection with foreign bodies in the knee-joint he had said that bone fragments were uncommon. Dr. Lloyd said he had not intended to make such a statement.

Dr. Whitman said he had removed a foreign body from the knee-joint which had proved to be a fragment of bone covered with cartilage. The fragment slipped about so that it was necessary to have the patient himself assist at the operation in order to find and fix the body until it could be removed.

Dr. T. Halsted Myers asked Dr. Lloyd how long he advised waiting before operating in elbow fractures where there was considerable disability. He had frequently known great improvement in function follow in children after some years without operative intervention. He wished also to know how slight a disability Dr. Lloyd would consider an indication for operation.

Dr. Lloyd replied that he never operated as long as the patient could flex and extend the arm so as to be able to work and this applied especially to children who usually improved greatly after a time if left alone.

He would not operate immediately after fracture, even if there was considerable disability. In those cases where after five to ten weeks there was not good recovery after massage and motion and where the X-ray showed arrest of motion due to bony displacement operative procedures were indicated.

Dr. George R. Elliott asked Dr. Lloyd if in cases of chronic bursitis he resorted to radical operative procedures.

Dr. Lloyd replied that he had operated upon several such. One case was in a golf player who had a chronic bursitis and who ten years previously had a tennis elbow, at that time diagnosticated as teno-synovitis. Laying open of the bursa gave complete recovery. Aspiration sometimes was sufficient and sometimes it was best to dissect out the bursal sac.

Acute Bone Atrophy from Injuries to the Extremities.—This paper was read by Dr. Weigel. He said this form of bone atrophy was not generally recognized. It differed from the well-known forms of bone atrophy that occur in rachitis, amputation stumps, osteomalacia, etc., in that it was essentially an eccentric one, *i.e.,* the size and contour of the bone remained unaltered. The spongy portion of the bone became rarified by a decrease of the lamellæ, while the compact layer was thinned and porous from a widening of the Haversian canals. These pathological changes were quite characteristic and could only be demonstrated in the living subject by means of the X-ray. The literature of the subject was rather scanty, as the changes in the bone, as a definite pathological process, had only recently been recognized. Kinboeck of Vienna, and Sudeck of Hamburg, were probably the first to call attention to the condition under consideration. Traumatism seemed to be the chief etiological factor, although inflammatory processes and nerve injuries might produce the characteristic bone changes. The traumatism need not be a severe one; in fact, some of the most severe changes occur after slight injuries. According to Wolff, the condition is essentially a tropho-neurosis, and cannot be attributed to disuse of the extremity.

A true atrophy from disuse was rare except after amputations and then was slow in development. The most frequent and striking symptoms were cyanosis, edema, with subjective and objective coldness of the skin. Other trophic disturbances such as "glossy skin" hypertrichosis, etc., might also be noted. The coldness of the extremity was unlike that observed in poliomyelitis and other paralytic conditions; it was more marked and might perhaps be best described as cadaveric, and extended usually over the whole extremity, irrespective of the original seat of injury. The prognosis was variable and seemed to depend upon the extent and duration of the disease. In the cases under the reader's observation the progress towards recovery was very slow, although in some of the reported cases a restitutio ad integrum with restoration of joint function took place in a comparatively short time.

With reference to treatment, Dr. Weigel said there was much to learn. Stimulating treatment would seem indicated, such as increasing the blood supply by massage, frictions, baths, galvanism, etc. Artificial venous stasis was also of much value. Active movements of the joints might be permitted, but weight bearing should be prohibited so long as it produced pain, as joint irritation promoted trophic disturbances.

In conection with the paper the following X-ray pictures were shown:

1. Amputation stump showing atrophy beginning in the central portion of the bone. The bone had a mottled appearance and the compact layer was thinned.

2. Foot showing the typical atrophy of the spongiosa of all the bones of the extremity from bone tuberculosis. It was frequently difficult to make a good X-ray plate of osteoporotic bones because of their translucency to the rays and absence of contrast between the component structures.

3. Case of osteomyelitis of the foot showing complete obliteration of the normal bone structure. In many cases the X-ray gave a better idea of the extent of the disease than an actual dissection. Dr. Weigel showed the bones of this foot (which was amputated) and demonstrated that the diseased condition was more evident in the skiagraph of the living foot than in the specimen.

4. Case of a woman, thirty-four years old, in good health, and with no tuberculous family history, who received a slight injury to the foot in January, 1901. There was slight swelling with ecchymosis over the internal cuneiform bone. An X-ray plate made in March, 1901, showed the bones of the foot to be normal, except possibly the cuneiform. In this bone there were two small well-defined shadows, supposed to be a tubercular focus. The patient was not seen again until November, 1901, when another plate was made showing extreme atrophic changes in all of the bones of the foot. Another plate made a year after the first one, demonstrated the persistence of the bone atrophy. The edema, cyanosis and coldness described in the paper were very marked in this case. Although the patient has improved under treatment the progress toward recovery was very slow.

5. Case of injury to the ankle, not clearly defined at the time of accident. Two years later the pain and disability were as great as ever. An X-ray examination demonstrated a fracture of the astragalus with considerable displacement of the fragment. Atrophic changes in other bones of the foot were well marked.

6. Case of Colles fracture with ununited fracture of the styloid. A year after the injury the pain and disability continued unabated. The skiagraph demonstrated a typical bone atrophy involving all of the bones of the wrist and hand.

7. Colles fracture. Thirteen weeks after injury the wrist and fingers remained stiff and swollen and painful. The typical atrophy of the bones of the hand were readily demonstrated.

8. Fracture of os calcis in a woman aged sixty. The usual symptoms of pain, swelling and disability continued for a number of months. Atrophy of all the structures of the foot were clearly shown in the skiagraph.

9. A case of Dupuytren's contraction that had been successfully relieved by operation. Six weeks after the operation there was an area of anesthesia around the cicatrix and a hyperesthesia of two fingers. The skin was smooth and shiny. Typical circumscribed bone atrophy was noted in this case also.

10. Case of slight injury to the foot supposed to be a sprain. At the end of eight months the pain and disability still continued. The X-ray showed a fracture of the scaphoid and secondary atrophy in other bones of the foot.

Dr. Lloyd said he considered such careful investigation of the bone changes as made by Dr. Weigel as the best kind of scientific work. He cited a case which had shown all the symptoms just described, cyanosis, coldness, joint weakness and edema, which recovered under the use of thyroid tablets.

Dr. Dowd congratulated Dr. Weigel on the presentation of pictures which showed so definitely the structures of the bone and the changes which had taken place in them owing to disease, and emphasized the importance of the contribution which he had made to our knowledge of one of the most puzzling conditions which we have to deal with. He recalled three cases of persistent pain, swelling and disability which had followed traumatism, and which he believed to be due to changes similar to those which Dr. Weigel had demonstrated. The first was in the hand of a woman who had received a blow from a door; the hand became swollen and very painful, and the disability was so great that she carried it in a sling for several months, underwent various forms of treatment, and consulted many surgeons and physicians. The tenderness and disability finally slowly subsided. The second was a woman aged about fifty years, who received a blow on the tibia from the wheel of a wagon, and who had similar symptoms which increased for a few months and finally slowly diminished, until at the present time, nearly two years after the injury, she has nearly recovered. The third was a somewhat similar condition which occurred in the tibia of a woman aged sixty years, who injured it in falling on the stairs. A contribution to our knowledge of the pathology and treatment of these most troublesome cases was most welcome.

NEW YORK STATE MEDICAL ASSOCIATION, NEW YORK COUNTY BRANCH.

Regular Monthly Meeting, held Monday, Nov. 17, 1902.

The President, Alexander Lambert, M.D., in the Chair.

Trachoma Forceps.—Dr. Saril presented a new trachoma forceps. He compared it with the trachoma forceps already well known to the profession, especially the Noyes and Prince instruments, and demonstrated that it was more serviceable in many ways. The old instruments sometimes fail to obliterate the trachoma bodies entirely, or leave them suspended from the conjunctiva by shreds of tissue. Some of them had a tendency to tear the lids and so left the patient in a condition from which complete recovery with smooth conjunctivæ was rare. In effectiveness and in absence of inconveniences with simplicity of action, Dr. Saril considers that the instrument which he has devised will prove of decided advantage.

Unscientific and Careless Prescribing.—Dr. Harry R. Purdy read a paper on unscientific and careless prescribing and especially on the use of secret remedies. He spoke first of the many incompatible drugs whose combination is attempted in certain prescriptions. It is often forgotten by the general practitioner that cocaine and boric acid, form a chemical compound which is lacking in most of the qualities of either of the constituent drugs. These two substances are nevertheless not infrequently prescribed together. In cough medicine incompatibles are often joined. Ammonium carbonate, for instance, and syrup of squills are put into the same prescription. The result is often an evolution of gas which either blows the cork out of the bottle or sometimes bursts it into pieces. The acid and alkali in these substances are bound to form a new combination with the evolution of carbonic acid gas. Notwithstanding the frequency with which attention is called to the subject, various tinctures and other preparations containing tannic acid are combined with iron salts with the result that iron tannate, the main ingredient of ink and the one which gives it its dirty color, is formed. It is well known that potassium iodide is incompatible with many drugs, yet recently Dr. Purdy has seen a prescription in which potassium iodide was combined with hydrochloric acid. Corrosive sublimate is incompatible with nearly everything, yet there are not wanting physicians who have the hardihood to attempt rather complex combinations of drugs, supposedly containing corrosive sublimate in solution. At times not even the tablet manufacturers are above making mistakes of this kind, and some tablets contain corrosive sublimate in a form in which, owing to the presence of other drugs, it is unavailable for the therapeutic purposes intended.

Stock Offers.—The latest advertising scheme is to put a number of prescriptions in the shape of tablets on the market and then offer stock in the company to physicians, who in return are expected to prescribe generously from the company's preparations. When the physician refuses, because he considers the proceedings scarcely ethical, the agent is apt to say that any such nicety of feeling is very old-fashioned in our day. There are some old fashions that are better than new ones. It is a proud distinction when one is old-fashioned on the side of what is delicate in feeling and proper in professional honor.

Tablet Giving.—The practice adopted by some physicians of giving tablets in the office or even when making calls, instead of writing prescriptions, is an unfortunate development of modern practice. It is not only undignified, but it is displeasing to patients, rich or poor, who seldom feel satisfied and have something of the sentiment that if their illness is so much like some one else's that all that is needed is some old-time formula in the shape of tablets, then there was no need of consultation with a physician. Patients have a right impression in this matter, that somehow the indications of the case can not all be met and that their special symptoms may fail of relief for lack of the special thought needed for them. The fault, of course, is not so much in the physician himself as with the education of the physician, which at least a few years ago did not give any practical knowledge of drugs.

Patent Medicines.—It is a most commendable section of the code of ethics which makes it unprofessional for a physician to hold a patent or to dispense a secret nostrum, whether it be his own or another's. At the present moment, however, many physicians are engaged in a practice that approaches in some respects a violation of this section of the code of ethics. There are physicians who prescribe remedies whose contents they do not know or know but very vaguely. Sometimes there is an announcement that the remedy contains such and such material, but definite data as to its composition are not supplied. In such cases to prescribe the remedy is to do something unworthy of a professional man. The fact that physicians have taken to such methods accounts to a certain extent at least for the success of osteopaths, Christian Scientists and similar impostors in our day. The educated physician does not need the help of secret remedies, or of any secret methods. Definite scientific indications are to be met by exact drug responses and not in the hit-or-miss way that some supposed wonderful combination will accomplish results that only a charlatan could possibly claim for them. As the result of physicians foolishly permitting themselves to be induced to prescribe such secret remedies, there are an immense number of these on the market now. It is an injustice to the druggist to compel him to keep so many of this class of remedies and it constitutes one reason why, as a consequence of the reduction in profits in comparison with the amount of capital that must be invested, the druggists sometimes adopt unworthy methods of adding to their profits. Some of the evils of substitution are due to this fact. The sale and exhibition of many patent medicines are somewhat a consequence of the same state of affairs.

Chair of Pharmacology.—Every medical school should have a professorship of pharmacology through which students should learn with regard to the combination of drugs and know something about the practical application of the principles of pharmacy. Without this the physician is seriously handicapped, since he is utterly unable to tell whether his prescriptions have been put up properly, or whether flagrant substitution may not have been practised. Considering that drugs are to be the most important part of the physician's armamentarium through life, entirely too little attention is devoted to them and to their various combinations.

Intoxicating Drugs.—Dr. Purdy is of the opinion that our laws should be so arranged that the sale of intoxicating drugs shall be much less facile than it is at present. The use of many intoxicants is very seriously on the increase, and our present law is utterly unable to limit the evil. Here, as with regard to proprietary remedies, druggists have drawn a little apart from the profession and the consequence is a serious abuse that needs correction.

Signification of Patent Medicine.—Dr. Eliot Harris, in discussing Dr. Purdy's paper, said that a patent medicine in the true sense of the term is a perfectly proper preparation. If the medicine is a patent preparation, the specification according to which it was prepared is filed in the patent office in Washington. For five cents any one can obtain a copy of the formula, according to which it is prepared. This is not then a secret remedy in the true sense of the term and a reputable physician may use it without injury to his medical standing. The code of ethics only says that physicians shall not hold patents on remedies. This is insisted upon, because physicians owe a duty to the public and to their professional brethren, not to deprive them of any aid that lies in their power, since their life-work is not merely personal, but for the benefit of humanity. Dr. Harris said that with regard to the acceptance of advertisements for medical journals, and especially for such journals as are owned and published by medical societies it is important that the distinction should be made between such remedies as are merely proprietary, that is, sold under copyright, and such as are really patent medicines. In the latter class fall only those which can be prepared by careful following on the part of some one thoroughly able to understand them of the specifications of the patent filed at Washington. It sometimes has been known to happen that notwithstanding supposedly explicit directions for its preparation, the patent specifications did not really give the proper method of preparing a given remedy. Under such circumstances, the patent will not hold, and, of course, the remedy is to be considered as unethical.

Medical Advertising.—Dr. Frederick Holme Wiggin said that he has for several years been one of those who have carefully watched over the advertising allowed to appear in the directory and medical journals of the New York State Medical Association. It has not been easy to keep these publications free from objectionable advertisements. The object of the committee has been accomplished, however, and besides an example has been set and efforts have been made to raise the standard of the journal of the American Medical Association in this regard. Many well-paying advertisements have been rejected, because of the feeling that they should not appear. The consequence has been that there has been a deficit rather than a surplus in recent years as the result of the preparation of these publications. He said that, personally, far from seeing any decided objection to the giving of tablets to patients in his office, it is a frequent custom of his. Where remedies are prescribed it not infrequently happens that the physician does not want them to be renewed. Directions in this matter will not alwaye impress patients and sometimes weeks or months after a prescription has been given, it will be found that patients are still taking some remedy that they were meant to use only for ten days, or two weeks at most. Tablets keep well, as a rule, most of the ordinary drugs can be dispensed in this way and consequently the habit of giving them. Dr. Wiggin said that, though he has been a surgeon for 25 years, he yet believes in medicine. Not that symptoms should be treated by medicine, but that the underlying cause should be reached, and very often when medical men have been tinkering at the relief of symptoms for a long time, the surgeon finds that there is some serious pathological condition that requires a knife.

Ready-made Compounds.—Dr. George D. Stewart said that far from going back in the use of medicine, medical men were going almost headlong forward. Ready-made compounds have become so popular that they threaten like ready-made clothes and shoes to usurp the market. It does seem undignified, however, that the physician should have to look over the price-list of some manufacturing firm in order to see what he shall prescribe. It is, indeed, a trying moment when the physician wonders whether the No. 2 stimulant expectorant contains all that he might want to give this particular patient or not. A druggist recently confessed to Dr. Stewart that he kept 15 different kinds of aloin pills, and yet he thought that he could make a better one himself whenever it should be called for, and the fresh pills would not be so likely to pass unchanged through the intestinal tract, and, of course, do no good in their ultimate destination.

Pharmacology.—Medical schools are doing much better work in pharmacology than formerly. There is a course in pharmacy in all of the better medical colleges now and recent graduates can not complain that they know nothing of the practical side of compounding drugs. What is needed is not knowledge of more drugs, but better knowledge of a few drugs. With regard to incompatibility, Dr. Stewart considers that the best way to get around the difficulty is to give powerful drugs, the precipitation of which may lead to serious results by themselves. He said that undoubtedly the present sale of intoxicating drugs is a crying scandal and a serious blot upon our civilization. There seems every reason to think that at least one-half of the morphine now sold is not used legitimately. In various States statistics show how much the use of various intoxicants is increasing. Even among the negroes in the distant South, the poorest of the poor, morphine and cocaine are being used to an alarming extent. Our laws should be so constructed as to meet this evil and the committees of our medical societies should make every effort to stop the abuse. Undoubtedly physicians are sometimes responsible for the beginning of the habits. But this is not nearly so often the case as is thought.

Tendency to Ready-made Preparations.—Mr. Thomas J. Keenan, a practical druggist, said that there is an alarmingly growing tendency to use ready-made preparations in prescriptions. This has become especially noticeable during this last decade, when there has come a complete change in this regard. Fifteen years ago of 50 prescriptions taken at random, 48 of them contained only ordinary pharmaceutical preparations and only two ready-made remedies. In 1892, of 50 prescriptions 15 contained ready-made remedies and 35 pharmaceutical preparations. In 1895 the proportion had risen to 24 proprietary to 26 regular ingredients; in 1896 there were 30 proprietary and only 20 regular components. In 1901 there were 41 ready-made remedies written for, and only nine times did physicians make the complete prescriptions for themselves. It is well known that proprietary remedies drift eventually from the drug store to the department store and so get directly into the hands of the people where they do harm rather than good. At the present day pharmacists receive a much more scientific education than 25 years ago, yet there is no corresponding appreciation of this fact on the part of the physician. Pharmacists are thoroughly in sympathy with the good of the profession and with a few notable exceptions are never ready to do the many unprofessional things of which they are sometimes suspected. If physicians will only give pharmacists opportunities properly to use their scientific attainments in the compounding of prescriptions, there will be no complaint. The complaints of substitution come mainly because of the many different proprietary remedies of the same kind, only bearing different names, that druggists are supposed to keep in stock.

Proprietary Remedies and Their Place.—Dr. James J. Walsh said that proprietary remedies of a certain kind, especially the real patent medicines, the one that is the result of a real discovery, have a place in medicine. It must not be forgotten that we owe many of our most valuable modern remedies to the investigations carried on by German chemists with the idea of discovering quinine. Practically all the valuable coaltar series of remedies was discovered in this way. Each of these has a special value by itself and its discoverer, when not a physician, has a right to a proper reward for his investigating genius. These are true patent medicines. Germany is not the only place where they have been made and the enterprise of American inventors will undoubtedly give us many of them in this country before long. Under these circumstances, proprietary remedies should not only not be discouraged, but should be encouraged, and their ethical introduction has a proper place not only in the advertising columns, but in the reading columns of medical journals. To forget this distinction would be to do harm rather than good. It is quite another thing to object to the use of ready-made remedies, whose only recommendation is that they save the doctor doing the thinking for which he is supposed to be paid. To use prescriptions simply because they are pushed into one's notice by an enterprising advertiser is to prostitute professional dignity.

Informal Prescribing.—Dr. Walsh said that another serious difficulty with regard to prescribing is the giving of informal prescriptions. The doctor tells a friend casually to use nux vomica or perhaps wintergreen oil, or it may even be Fowler's solution. In three such cases serious symptoms have resulted, under Dr. Walsh's observation. An elderly man told to use nux vomica in 30-drop doses, finally used it in 50-drop doses, and being elderly, with hardened arteries, had some spasmodic trouble, and especially a difficulty of moving the muscles of the face, that quite disturbed the members of his family. A school teacher who had been told to use five to ten drops of wintergreen oil, when she had what she considered rheumatic pains in her arms, really a writing brachyalgia, finally took 100 drops of it within about six hours, and had some cyanotic symptoms and labored breathing with disturbance of her heart action. A young man told to take Fowler's solution in five-drop doses for psoriasis, was cured of one attack, and when the disease recurred and five drops did not relieve, took 12 drops three times a day for a considerable period with a resultant development of considerable gastrointestinal irritation and some arsenic neuritis. Every year in this country a few fingers and toes are amputated because, as the result of an informal direction with regard to the use of carbolic acid as an antiseptic wash a mother, or perhaps a druggist wraps a finger in a wet dressing of dilute solution of carbolic acid with a resultant gangrene.

Ethical Drugs.—Dr. Emil Mayer said that as a member of the advisory committee of the Journal of the New York State Medical Association, he has taken part in the discussion of ethical drugs for its advertising columns. It is an extremely difficult problem. There are certain proprietary remedies that are undoubtedly ethical in the best sense of the word. It is not only with regard to drugs but also in other respects that druggists will have to be more ethical. Pharmacists sometimes make remarks about prescriptions and especially about the dosage that *doctors* may recommend in a way that proves seriously disturbing to patients. One such case in which 100 grains of iodide was being used three times a day might very easily have been seriously injured on such advice since syphilitic nervous lesions were developing and a large quantity of the drug was needed.

Prescription Writing.—Dr. Delphey said that out of 1,000 successive prescriptions at a drug store, mainly filling the prescriptions of thoroughly educated and up-to-date physicians, nearly 200 of them contained secret preparations. The methods of advertising these remedies and the way in which they are forced upon the doctor's attention remind one too much of the methods of the ordinary patent medicine man ever to obtain favor with physicians. Some of the preparations that are forced upon the attention of the profession are mere mixtures, the manufacturers are not makers of chemicals, but buyers, and it is price they look to in buying and not to the quality.

Insoluble Tablets and Pills.—Dr. Purdy said that many of the pills and tablets so freely prescribed and distributed to patients by physicians are thoroughly indigestible. They pass through the gastrointestinal tract absolutely unchanged and might well be recovered from the stools. Patients do not care for tablets and pills given in this way, but they like to feel that they have a prescription written just for them and not merely selected from a group of prescriptions, one of which, it is to be hoped, will suit their case. Such pills as quinine pills and creosote pills are particularly apt to be indigestible and it is sure that patients having taken them once will subsequently look for them without the necessity of a visit to the doctor in order to obtain them.

Significance of Venous Hum.—Dr. C. N. B. Camac described a series of cases in which the venous hum had been studied in the Cornell Medical College dispensary. Some 22 cases had been carefully studied. In some the venous hum occurred with no disturbance of the hemoglobin value of the blood. In other cases it was found that when the venous hum was present even though there was marked pallor there was no lack of hemoglobin, on the other hand in some cases of clinical anemia with the venous hum there were no blood changes. This occurrence of the cervical bruit with normal blood is especially interesting. Dr. Camac's paper will appear in a subsequent issue of the Medical News.

CHICAGO SURGICAL SOCIETY.

November 3, 1902.

A. J. Ochsner, M.D., in the Chair.

Case of Recto-Vesical Anastomosis for Exstrophy of the Bladder.—Dr. E. J. Senn exhibited the patient two years ago before the Chicago Medical Society, at which time discussion arose as to the prognosis. He showed the patient now for the purpose of demonstrating the possibility of performing vesico-rectal anastomosis successfully, and without causing infection of the kidneys. Two years ago he made an anastomosis between the bladder wall and the rectum. Examination of the urine before the operation showed considerable albumin and granular casts; at present, the urine shows no albumin, but a few granular casts; specific gravity 1.015, slightly alkaline reaction. He modified somewhat the procedure described by Dr. Jacob Frank, in that he made the anastomosis similar to the manner in which one would make a colostomy.

Dr. L. L. McArthur said that he presented a case some years ago before the Chicago Medical Society similar to the one described by the essayist. The bladder was covered in by flaps from the abdominal wall. The median flap contained hair follicles, and in this particular case the hair grew and a phosphatic deposit occurred upon it and caused trouble.

Dr. Jacob Frank said that when the fistula now existing was closed, there would not be any trouble from the escape of feces, because he had found in experimenting on dogs that if he took the healthy bladder of the animal and anastomosed it with the rectum, while there was at first a severe vesical inflammation, when the animal recovered from the operation the bladder contracted, and the vesical mucous membrane took on the characteristics of the mucous membrane of the rectum, showing that the bladder could accustom itself to a foreign substance, and also to more or less infection.

Dr. Daniel N. Eisendrath asked how long the patient could hold the urine, and what effect it had upon the bowel movement, particularly where there was such a large quantity of fluid in the rectum constantly?

Dr. Senn replied that the urine did not pass into the rectum at the present time, owing to the defect. During the three or four days when the defect was closed, the bowels moved two or three times a day. He recalled a case in which the late Professor Fenger did a Maydl operation, where the patient had two bowel movements a day.

Dr. A. E. Halstead said that if he had another case of exstrophy of the bladder to operate on he would resort to the same method that he employed in the first one, namely, doing a vesicosigmoidal anastomosis with the button. He would use the Murphy button in preference to the Frank coupler. His reason for using the Murphy button in preference to the Frank coupler was that the former could be used to great advantage in shortening the time of operation; one could separate the two halves of the button, but this could not be done with the coupler.

Renal Cystine Calculus, with Right Nephrolithotomy, Right Nephrectomy, Followed later with Anuria, Requiring a Left Nephrostomy; Recovery.—Dr. L. L. McArthur exhibited a woman, aged thirty-seven, married, mother of two children, had been in poor health, but had no serious illness. Her mother died of liver and kidney trouble. Brother and sisters well. Very poorly for three years, complaining during that time of periodical vomiting with right lumbar pain lasting generally three days and occurring chiefly at the monthly epoch. The latter regular, usually of four days' duration. For years had suffered with constipation. Present attack began Jan. 29 with same pain, vomiting, constipation, never jaundiced, fever as high as 101°. Quite recently a tumor was discovered by Dr. Waller in the right lumbar region, which examination revealed to be an undoubted renal tumor. Diagnosis: Stone in kidney, with pyelitis. Advised X-ray picture, urinary segregation and probably nephrolithotomy. June 2, skiagraphs showed two stones in right kidney. Left kidney negative.

The writer had selected this subject more to show what he had learned in his search of the literature than to exhibit a successful surgical interference. The majority of surgeons had looked upon cystine and cystinuria as chemical and medical curiosities, without special significance.

Probably the most striking fact in connection with cystinuria was its marked hereditary tendency. Golding-Bird reports having seen the trouble in three generations of the same family, and Cohn, in a family of twelve people reports seven, the mother and six children, as having the disease. Simon, of Johns Hopkins, has, more than any other, brought to systematic notice the entire literature of this disease.

When Bauman and Udransky discovered the presence of cadaverine and putrescine in cases of cystinuria, it seemed to offer an explanation of the cystine production as the result of putrefactive processes somewhere in the alimentary tract, and the presence of the same, in the feces of the patient, apparently confirmed this idea. But while these diamines have been found during cystinuria, they have never been found associated with any other condition, and only five or six well-authenticated cases out of the 112 are known. Moerner has obtained cystine abundantly by the digestion of horn with hydrochloric acid and Embden has prepared it from egg albumen by hydration. Dr. McArthur believes, therefore, that since it can be demonstrated to be produced under these several conditions, we may find cystinuria due, at one time, to poor metabolism; at another, to chemical poisoning, and at another, as the by-product of bacterial putrefactive processes.

He presented the woman upon whom he had operated, for the purpose of showing the lateral curvilinear incisions following along the margin of the twelfth rib, in the particularly thick wall of the patient, to demonstrate that there is no hernia present in the case illustrating this paper.

A skiagraph was obtained, showing what appeared as a calculus in the pelvis of the kidney; another one in the ureter of the right kidney, but nothing was seen in that of the left kidney. These stones having been demonstrated to have been present, the patient was admitted to St. Luke's Hospital on June 8, 1901, and left the hospital July 13, five weeks later, having had performed a nephrolithotomy of that side. On opening the kidney, innumerable small calculi, a few of hazelnut size, and others of the size of very fine millet seeds, with a good deal of white, creamy material, came away, and the stone, which the skiagraph had shown in the urethral orifice, was removed. On the 13th of June, the wound was reported as healing by first intention, except at the part where the drainage tube rested. On July 8, the patient was able to leave the hospital. A small drainage tube was still in the side, with a small amount of urine escaping, the urine at that time being normal, it being purulent at the time of patient's admission to the hospital.

In October, the wound not having healed, she returned as the Doctor had suggested. Very little urine was escaping from this fistula, and nothing came down through the ureter. X-ray negative at this time. On opening the kidney, he found another stone had formed and was blocking the ureteral orifice. Rather clear urine was in the pelvis of the kidney, the tube was not in the pelvis of the kidney. Finding another stone, he decided to give her another chance to save the kidney, which resulted in the return of the patient in February, 1902, for the final nephrectomy. This was done on Feb. 5, followed by as normal a convalescence as could be desired up to about midnight of the twelfth day. At two o'clock that night she was suddenly seized with vomiting and an intense pain of a renal colic character upon the left side, followed by a gradual suppression of urine, the kidney having been functionating normally for ten days after the right nephrectomy. The urine came down in about 20 or 30 drops in two hours, as determined by the catheter. She was vomiting, and became so depressed he decided it was necesary to make a nephrectomy on that side. Upon opening the kidney he found a distended pelvis. Under tension, the kidney was somewhat enlarged, very hard and firm. As soon as the finger was carried through the cortex, urine gushed out under great pressure, containing nothing but a few crystals of cystine. No stone was to be felt, nor was there any stone passed from that side. But 36 hours afterwards there began to come down through that ureter a perfect shower of cystine crystals, which he is convinced was the cause of the occlusion of that ureter.

Dr. Arthur Dean Bevan spoke of the relationship between the existence of one working kidney in an individual and the occurrence of complete anuria. When anuria developed, it did so in a patient who had but one working kidney. It was certainly rare to have obstruction of the two ureters occur simultaneously. In this particular case one kidney had been removed, and therefore there was but one working kidney, and obstruction of the ureter of that kidney would develop the symptoms described. He thought if surgeons were to keep track of the function of the two kidneys in cases of kidney colic, they would find that temporary anuria of one kidney was the rule.

Dr. McArthur, in closing the discussion, urged the Fellows, if they encountered such manifestations in the urine as he had in his case, not to pass them by as mere chemical curios, but to pay attention to them, or be on the lookout for them.

Dislocation of the Individual Carpal Bones, with Report of a Case of Luxation of the Scaphoid and Semilunar.—Dr. Wm. Hessert read a paper on the above subject, introducing this patient. Man, twenty-five years old, painter by occupation. On June 12, 1902, while at work on a scaffolding, lost his balance and fell a distance of four stories, his fall being interrupted by several obstructions before he finally struck the ground. He was taken in an unconscious condition to the hospital, where it was found that, except as to his right arm, he was practically uninjured. The injury of the arm was diagnosed as fracture of the lower end of the radius, and the member was put up in splints.

On examination, the fingers were found to be held somewhat flexed; he could not pick up any object, neither could he make flexion nor extension of the fingers. On passive motion, the fingers could be extended and fairly flexed, but the movements were painful. Pronation and supination were free, both active and passive. Active and passive motion at the wrist was very much restricted. There was a bluish scar at the middle of flexure of wrist about two centimeters in extent.

The X-ray revealed the nature of the trouble, and clearly showed that the author had to do with the displacement of two bones, the scaphoid and semilunar, to a place far distant from their original location.

Replacement of the bones by manipulation was out of the question. A longitudinal incision, two and a half inches long, midway between the tendon of palmaris longus and flexor carpi ulnaris, was made. After dividing the fascia, the tendons of the flexor sublimis digitorum and the flexor profundus digitorum were drawn to the radial side by a blunt hook. Flexor carpi ulnaris, together with ulnar artery and nerve, were retracted in the opposite direction. The bones were easily accessible, lying on the pronator quadratus.

The patient was exhibited, and the subsequent history of the case given, showing that the essayist had obtained an excellent result.

The author went extensively into the literature of the subject, quoting the number of cases of 49 authorities.

Dr. Arthur Dean Bevan had seen several cases diagnosticated as partial dislocations of the os magnum, but never observed a forward dislocation of any of the bones of the carpus. He had made 50 or more Colles' fractures on the cadaver, and then made dissections of the injury done after the fracture was produced. In the 50 or more cases of Colles' fracture which he had produced experimentally, he had never seen a single dislocation of any of the bones of the carpus, either a dislocation of the wrist, that is, between the radius and ulna and the first row, or between the two rows, or between the second row and the metacarpal bones.

Dr. Hessert, in closing the discussion, expressed the belief that dislocation of the carpal bones was of more frequent occurrence than was formerly supposed. With the advent and use of the X-ray, he thought more of them would be detected in the future, although this dislocation might be considered a comparatively rare one.

Inflammation and Perforation of Meckel's Diverticulum as a Cause of Septic Peritonitis, with a Report of Two Cases of Typhoid Perforation of Meckel's Diverticulum.—Dr. A. E. Halstead read a paper on this theme, in which he said that persistent omphalo-mesenteric remains may produce symptoms in a number of ways, depending upon their degree of completeness. Of the pathological conditions arising from these remains, the most important are: (1) Intestinal obstruction, either acute or chronic; (2) a free diverticulum; (3) the intestine above an attached, patent diverticulum may become invaginated into the diverticulum, or its mucous membrane may become prolapsed, forming a tumor at the umbilicus. (4) When, as in the most complete form of this defect, the diverticulum forms a tube opening freely at the umbilicus, we have a fecal umbilical fistula. (5) Cysts of diverticular origin are at times formed in the abdominal wall, in the vicinity of the umbilicus. (6) In addition to these cystic tumors, solid adenoid growths are occasionally found about the umbilicus which are no doubt related in their origin to remains of the Vitelline duct. These have been termed by Lannelogue, diverticular adenoid tumors. (7) A Meckel's diverticulum may become the seat of an acute or chronic inflammation. Acute inflammation may lead to perforation, with local or general septic peritonitis.

In the paper, cysts of diverticular origin and acute and chronic inflammations of this structure were considered. After going extensively into the literature of the subject, the author stated that inflammation of Meckel's diverticulum may result (1) from participation of the mucosa in a general inflammatory process involving the mucous membrane of the intestine; (2) from local causes, as obstruction of the lumen from twisting or kinking of the neck, or from foreign bodies and fecal concretions which may lodge in this pouch.

In reviewing the histories of the reported cases of inflammation of Meckel's diverticulum, the author finds that in none was the cause of the symptoms recognized before the abdomen was opened. In the cases operated upon, the diagnosis of appendicitis or of intestinal obstruction was made. At the present time no symptom or group of symptoms are sufficiently characteristic to permit of a diagnosis of diverticulitis. In the majority of cases the disease runs a course closely simulating appendicitis. In many the diverticulum occupies a position in the right iliac region, close to the appendix. The onset is usually sudden, with vomiting, muscular rigidity and pain, as in appendicitis. In a few cases the symptoms have been those of recurring appendicitis, with the interval between the attacks free from any evidence of disease. In those cases when the diverticulum is attached to the umbilicus, periumbilical pain and tenderness are evidence of the disease being located in a Meckel's diverticulum. The presence of an umbilical fistula, tumor, or cyst is presumptive evidence of other omphalo-mesenteric remains which may be the source of infection in circumscribed or diffuse peritonitis.

Dr. Arthur Dean Bevan said he had seen some cases in which the remains of the Vitelline duct persisted, and gave evidence of trouble. He recalled two cases of obstruction of the bowel produced by the remains of the Vitelline duct, but he had never had a case of diverticulitis in his own surgical work, unless he had one at the present time. A woman was admitted to the hospital with a suppurating fistula at the umbilicus. A large, pancake-shaped abscess, about six inches in diameter, was found, on opening the abdomen, into which the fistula ran. The abscess was situated between the parietal wall and omentum. It was filled with pus, and in the pus was a fragment of wood that was about a third of the size of an ordinary toothpick, which was macerated. From the location of the condition and from the foreign body found, it was undoubtedly a case of perforation of the remains of the Vitelline duct from the wood which eventually perforated at the umbilicus.

Dr. Halstead, in closing the discussion, said that he encountered a case of intestinal obstruction from a diverticulum, and then shortly afterwards, probably within a month, he had a case of typhoid perforation of a diverticulum, and after seeing another specimen in the hands of Dr. William E. Schroeder, he thought the subject was well worthy of the consideration of the Society.

BOOK REVIEWS.

A Text-Book of Surgical Principles and Surgical Diseases of the Face, Mouth and Jaws for Dental Students. By H. H. Grant, M.D. W. B. Saunders & Company, Philadelphia. 1902.

This book aims to place before the dental student a full review of the subject of ordinary surgical affections of the jaws. By means of very numerous plates and well-arranged subject-matter this aim of the book is well realized. There are, however, some shortcomings, the most significant of which is that of prophylaxis in the infectious diseases, consisting of the full sterilization of dental instruments. It is probably true that the dentist is very much less careful in this detail than the practitioner of medicine, and no one can doubt but that infectious diseases, notably syphilis, may be acquired in the dental chair through no reason other than that the operator does not sterilize his instruments or his hands in passing from one patient to another. However, as a brief review of a very wide field this book deserves recognition as being of first-class order. The feature that is convenient for the student is that each chapter closes with a systematic and valuable summary of the subject or subjects of the chapter.

Genito-Urinary and Venereal Diseases. A Manual for Students and Practitioners. By Louis E. Schmidt, M.D. Medical Epitome Series. Edited by V. C. Pedersen, M.D. Lea Brothers & Company, Philadelphia and New York.

The Question Compend of former years has seen its day come and pass. It filled a small sphere of usefulness, notwithstanding its limitations and shortcomings. The need, however, of small, first-class books, free from the useless discussions and stating all the established facts in medicine, is indisputable. In publishing the volumes of the Medical Epitome Series, they have endeavored to have each cover, with commendable accuracy, just these requirements. In bringing before the general public the volume of Genito-Urinary and Venereal Diseases of the Medical Epitome Series, the following merits will be accepted as present in the volume. It is of convenient size, approximately 250 pages in length, within whose limits are contained all of the essential facts concerning the well-known venereal and genito-urinary diseases and their direct and remote complications. The venereal diseases, syphilis and chancroid, occupy the first portion of the book separately described by themselves, while all the other diseases are treated under the heading of Genito-Urinary Affections. In this part a feature is the description of the general complications of all urinary diseases, whether directly or remotely associated with syphilis, chancroid or gonorrhea. Urinary diagnosis has been made especially clear, for the reason that of all the single features in the genito-urinary tract, the element of diagnosis is the most important and the real foundation of all success.

BOOKS RECEIVED.

The Medical News *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* Medical News *will shortly appear.*

Transactions State Medical Association of Texas, 1902.

Manual of Gynecology. By Dr. H. T. Byford. Third edition. 8vo, 598 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

Die Laune. Eine Aerztlich-psychologische Studie. By Dr. E. Jentsch. 8vo, 60 pp. J. F. Bergmann, Wiesbaden. G. E. Stechert, N. Y.

Directions for Laboratory Work in Physiological Chemistry. By H. C. Jackson, PhD. 8vo, 62 pages. John Wiley & Sons, New York.

Genito-Urinary and Venereal Diseases. By Dr. L. E. Schmidt. 12mo, 249 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

The Practical Medicine Series of Year Books Vol. I. Oct. 1902. General Medicine. Edited by Drs. Frank Billings and J. H. Salisbury. The Year Book Publishers, Chicago.

Die Freiheit des Willens vom Standpunkte der Psychopathologie. By Dr. A. Hoche. 8vo, 40 pp. J. F. Bergmann, Wiesbaden. G. E. Stechert, N. Y.

Atlas and Epitome of Abdominal Hernias. By Dr. G. Sultan. Edited by Dr. W. B. Coley. 8vo, 277 pages. W. B. Saunders & Co., Philadelphia and London.

A Manual of Medical Treatment on Clinical Therapeutics. By Dr. I. Burney Yeo. 2 vols. demi 8vo, 696-818 pages. W. T. Keener and Company, Chicago.

A Text-Book of Pathology and Pathological Anatomy. By Dr. Hans Schmaus. 8vo, 602 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

The Practice of Surgery. By Drs. Henry R. Wharton and B. Farquhar Curtis. Third Edition. 8vo, 1241 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London.

THE MEDICAL NEWS.
A WEEKLY JOURNAL OF MEDICAL SCIENCE.
VOL. 81. NEW YORK, SATURDAY, DECEMBER 6, 1902. NO. 23.

ORIGINAL ARTICLES.

VOLVULUS AS A CAUSE OF INTESTINAL OBSTRUCTION: WITH A REPORT OF THREE CASES OPERATED UPON SUCCESSFULLY.*

BY JOHN F. ERDMANN, M.D.,
OF NEW YORK.

IN an article, "A Study of One Thousand Operations for Acute Intestinal Obstruction and Gangrenous Hernia," by Dr. Charles L. Gibson, published in the *Annals of Surgery*, Vol. XXXII, the following statements are made under the subject of Volvulus:

A. "Volvulus occurred 121 times. The author thinks that this proportion is too large for city practice in the decade in which the thousand cases of obstruction were reported, but that he found frequent reference to this condition by foreign writers." I am very much inclined to his belief also.

B. "The frequency as to sex was found to be almost two to one for males as compared to females." Two of my cases reported here were males, the third a female.

C. "The average age was about forty-five years."

D. "Four cases reported were operated upon a second time for recurrence and one, a case operated by Dr. Foote and reported by Dr. E. Eliot, Jr., was operated upon three times."

E. "The mortality when the small intestine was involved was 70 per cent. as compared to 46 per cent. when the large intestine was involved."

F. "That only one case in the entire list recorded was successful after resection of the small intestine was performed. This case was operated upon on the second day, 127 centimeters being removed."

Case II, reported here, had a resection of over 12 inches, about 32 centimeters, of small intestine on the second day of the disease.

In view of these interesting statements of Gibson, I herewith report the clinical histories of three cases coming under my observation within a period of 17 months.

While the diagnosis of obstruction itself is easy, great difficulty is often experienced in differentiating the condition producing it. In this disease age is a factor of some weight, as volvulus usually occurs in mature life, the average age being forty-five years, while in intussusception the cases are almost all in the young. Shock seen early in intussusception, is not evident to any degree in volvulus until late. The conditions calling attention to the abdomen often require two or more days before a specific diagnosis of obstruction by volvulus is made, while in intussusception only a few hours are necessary. Its onset in both conditions may be heralded by a sharp pain, but here age plays its important part. Distention of the abdomen can be outlined in coils of gut or in the course of the large intestine, while in intussusception either a tumor is present or there is general tympany.

Vomiting as a symptom is rare or late in large gut invasion. Mucus and bloody stool and tenesmus are not present as in intussusception. A defecation is possible, the contents of the bowel below the twist may be expelled. Digital or bimanual examination or by mechanical device shows in some cases obstruction not due to a mass in the bowel.

The treatment in these cases is generally operative, although in recent years some (?) results have been obtained by placing the patient upon one side for a time and then having him roll suddenly to the opposite side of his body, the theory advanced being that of a shock or impulse to the twisted intestine sufficient to untwist it. The difficulty in using this method can readily be understood, for if one is shaken by rolling to the side which the twist approaches, in all probability the condition would not be ameliorated, but exaggerated.

Operative Treatment.—Upon opening the abdomen, if the condition exist in the large intestine, immense dilatation of the invaded portion is seen as a rule. This may be so great (See Fig. 1, Case I) as to require for reduction either a very extensive abdominal incision or intestinal puncture to allow of escape of gas. Naturally, the latter procedure increases the tendencies to a fatal outcome. As the overdistended bowel is usually in an atonic condition, it is advisable to use the rectal tube as a means of escape of gas and also for the purpose of washing out the retained and decomposed contents of this portion of the bowel. After the volvulus has been reduced, the questions of anchoring the gut, plicating or reefing the mesentery, and resection of the gut arise.

In Case I after the gas and contents were expelled from the bowel, anchoring sutures were taken in three situations. These were so placed as to hold the sigmoid relatively in its normal anatomical situation. I do not believe that plicating or reefing the mesentery would be of any benefit in preventing return of this condition. Up to date I have operated upon 19 cases of intussusception and have followed this procedure but once, and that in my first or second case. Resection of the gut must be considered in a primary and secondary sense. I do not believe that with an atonic, overdistended sigmoid, that we are proceeding in a satisfactory surgical manner in doing a primary resection as a means of preventing recurrence, but would leave the matter for a secondary operation.

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* Read before the Society of the Alumni of Bellevue Hospital, Oct. 1, 1902.

The mortality as given above, almost two to one, in small as compared to large intestines, can only be theorized upon. Possibly the great sympathetic supplying the small intestine shares the major portion of the responsibility by inducing a more profound degree of shock. Then the greater mobility of the small intestines and the greater absorbing properties, must all be taken into consideration.

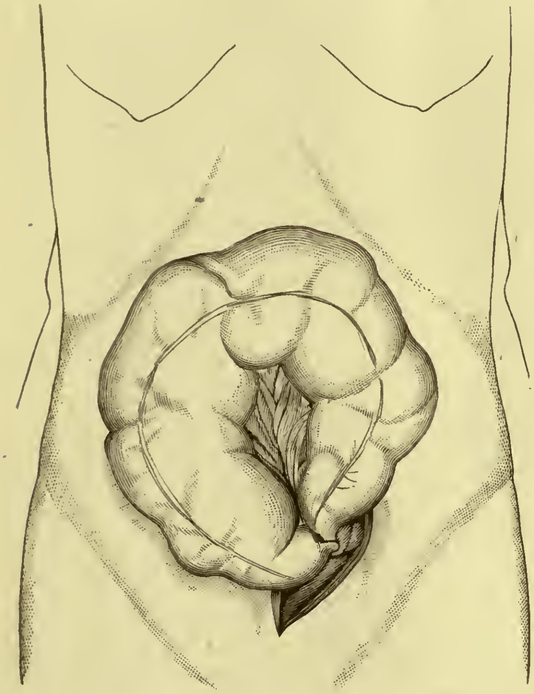
Fig. 1, Case I.

Finally, the question of how many of the cases of small intestine invasion recorded in Gibson's article were subjected to an artificial anus arises. As we believe that with the present-day surgery the mortality rate is less in primary excisions of gangrenous small intestine than in those cases where an artificial anus is made in the small intestine.

Case I.—Male, age forty-three years, shoemaker by ocupation. Seen in consultation at his home on July 28, 1899, at which time the following history was obtained. He was seized with a slight abdominal pain on July 24, just four days before being seen by me. The bowels moved slightly and a small quantity of mucus was present with some tenesmus at this time. On the twenty-fifth, the second day of the disease, pain became more severe,—constipation complete, no vomiting, pulse rapid, about 140—abdomen became tympanitic. The colon or sigmoid could be outlined upon palpation. On the twenty-sixth, twenty-seventh and twenty-eighth there were various drugs used, croton oil being the last, with a view to moving the bowels, with absolutely no effect. When seen by me, the abdomen presented a generally tympanitic condition, pulse about 120, patient's expression good, mind clear, no great amount of pain upon palpation, temperature 99½° F. A diagnosis of volvulus or bowel obstruction was made and removal to the hospital advised. Upon admission he was prepared under ether, and an incision made in the median line which was finally carried to within three inches of the ziphoid and downward to within two inches of the pubes. This was necessitated by the immense distention of the gut, preventing the untwisting of a volvulus of the sigmoid. The point of the twist corresponded to the fourth lumbar vertebra, the twist being from left to right and 180°, the loop of distended sigmoid filled the space normally occupied by the large intestine (See Fig. 1, Case I). The diameter of the gut was fully four inches. Considerable difficulty was met with in reducing the twist until the incision had been lengthened as before stated. The gut was of a bluish brown color. As soon as the twist was released a rectal tube was introduced through the anus and the air forced out by stripping and kneading the gut. Improvement was immediate. The sigmoid was placed in as near its normal relationship as possible and three sutures were placed in the most prominent longitudinal band and in corresponding points in the parietal peritoneum, with a view of anchoring the sigmoid and preventing further recurrence. The abdomen was closed. July 29 to 31, patient had a number of movements, possibly due to an accumulation of cathartics previous to the operation. Temperature and pulse were normal. On August 13, patient was discharged.

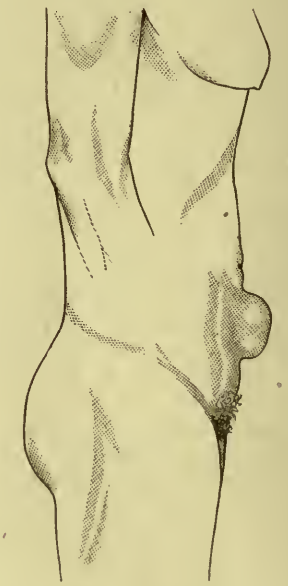
Fig. 1, Case II.

Case II.—Female, age forty-one years. Seen by me on Nov. 14, 1900, at which time the diagnosis of strangulated ventral hernia was made before history had been taken. The following history was obtained after the abdominal tumor (See Fig. 1, Case II) had been seen. Operated upon for some pelvic trouble in Bellevue eight years before. Gauze drain in abdominal wound and strapped till healed. Shortly after healing protrusion began; this increased rapidly, finally requiring a special device to "keep it in." Always been freely reducible till the day before admission, at which time she noticed that she could not reduce the mass and that it was painful. Vomiting appeared some 12 hours later, and continued incessantly till admission. Bowels absolutely constipated for three days. Temperature on admission 100° F., pulse 76. Examination of the abdomen showed a large, irreducible, painful mass. As the patient's general condition was very bad and vomiting was incessant, I deemed it advisable to operate under spinal anesthesia. Twelve minims of a two per cent. solution of cocaine was injected into the subdural space between the fourth and fifth lumbar vertebræ, and in seven minutes anesthesia was complete as high as the nipples. The vomiting became projectile and very forcible, so eight minims of magendi were introduced under the skin. This controlled the vomiting within ten minutes.

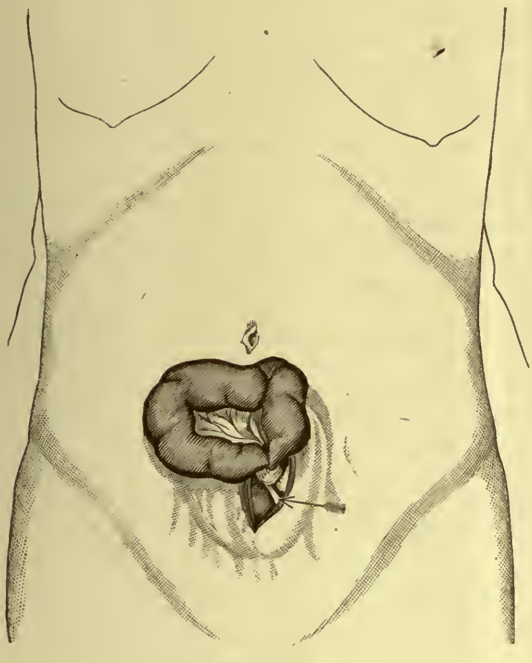

Fig. 2, Case II.

Upon opening the sac two loops of intestine were found; one about six inches long was perfectly healthy, and was reduced without any difficulty through a fairly large nonconstricted ring. The other loop, gangrenous, about 12 inches long, twisted upon itself from right to left, 180°, and was apparently held by a band (See Fig. 2, Case II, at the point of the arrow). The band was cut, gut untwisted and resected without the patient suffering any pain whatever. An end to end Murphy button anastomosis was made, the wound packed and patient taken to the bed. The condition was a perfect one for three days, when the patient's state being such as to admit of further interference, ether was given her and a radical repair was made throughout the entire length of the ventral hernia. On the tenth day after resection she was seized with an attack of pain and went into collapse. Stimulants readily revived her, from which time her recovery was one of uninteresting record. The button was passed on the night of the day of her intense pain and collapse, evidently there was a direct association between the collapse and the passing of the button. Discharged on Dec. 8.

As shown by the history, this was not a case of strangulated hernia but a case of strangulation of the small intestine due to volvulus and this loop by its distention prevented the reduction of a hitherto reducible hernia.

Case III.—Male, age thirty-four years, agent, Portchester, N. Y., was seen by me on April 10 at midnight. Patient gave the following history: Two days before he was seized with a sudden attack of pain, sharp in character, in the left iliac region. He felt that this was associated in some way with a forward right-armed lunge he made while rehearsing for some private theatricals about six days before. No passage of gas had been observed from the time of the onset of pain, and he also stated that he had had no movement of the bowels for the six days previous to the onset of the pain, the first day of constipation being the day of the rehearsal. His condition, when seen by me, was one of mild shock, abdominal distention rather in the line of the colon, a pulse of 112, temperature not recorded. No enema of more than a few ounces was retained. Operation was done in the early morning and a twist of 180° from left to right of the sigmoid was found. Gut healthy in color, and no great distention. Readily untwisted. While manipulating the bowel the mesenteric glands were found considerably enlarged and some serous fluid present in the abdomen. This fluid did not appear to be due to the volvulus and upon later investigation a tubercular personal and family history was obtained. The abdominal wound was repaired with three rows of number two catgut sutures, the peritoneum, rectus sheath and skin. A movement of the bowels and passage of gas was noted a few hours after the operation. A perfect period of aseptic repair was observed throughout as recorded by the chart, but upon the ninth day the patient coughed and felt that something had given way. The dressings were removed and the middle two-fourths of the wound were found to have broken apart while in the center a coil of intestine fully six inches in length was caught between the recti. This was reduced and through and through stitches of silkworm gut taken, and dressings were applied without drain. The condition following was a perfect union, the patient being about and attending to light duties within four weeks of his secondary sutures.

NOTES UPON SEVERAL UNUSUAL LARVAL INSECTS OCCURRING AS PARASITES IN MAN.*

BY ALLEN J. SMITH, M.D.,
OF GALVESTON, TEXAS.

Among a number of somewhat similar instances of human infestment by larval insects of one or other kind (the notes and specimens of which, with the exception of several examples of the well-known screw-worms and intestinal maggots, were unfortunately either not kept, or were destroyed in the Galveston storm) the two following examples have come to the knowledge of the writer and seem worthy of at least brief record.

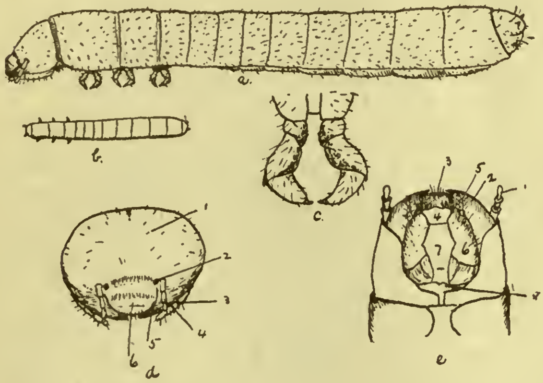

Fig. 1.—a. Enlarged lateral view of larva, showing details of structure; b. natural size (dorsal view); c. enlarged view of legs; d. enlarged view of front extremity: 1. epicranium; 2. ocellus; 3. antenna; 4. maxilla; 5. mandible; 6. labium. d. enlarged view of ventral surface of head parts: 1. antenna; 2. mandible; 3. labrum; 4. labium; 5. maxillary palp; 6. maxilla; 7. mentum; 8. submentum.

Tenebrio Obscurus.—In the pathological collection of the school (No. 635) there is a specimen of the larva of one of the *tenebrionidæ* which the writer believes to be *Tenebrio obscurus,* both adult and larval forms of which are occasionally met in meal, grain, forage and about dung-pits. It is the American representative of the English "meal-worm," the larva of *Tenebrio mollitor;* but it is known that both species have been met in recent years in both hemispheres, probably as the result of distribution through commerce. (In some parts of the United States, notably the Northern and Eastern States, the larva of a moth, *Pyralis frontalis,* is also known by the same common term, "meal-worm.")

The specimen was brought to the writer by one of the students of the school of medicine, Mr. I. E. Pritchett, who obtained it from a negro living near Huntsville, in this State. The negro, a healthy adult man, had complained of a sore throat for a day or two and had obtained from one of the druggists of Huntsville a gargle for its relief, and after use of the latter had in a sudden fit of mingled coughing and gagging brought this worm-like body into his mouth, probably from the esophagus or stomach; and after ejecting it living and moving from the mouth, became much alarmed and brought it for examination to the drug store. Mr. Pritchett, with the negro's consent, later obtained possession of the specimen from the druggist and brought it to the writer for identification. The man had had no other symptoms prior to the coughing spell sufficient to have attracted his attention; and there were no further disturbances after expulsion of the specimen.

When the writer first examined the larva it seemed quite improbable that it was anything more than a mere pretension on the part of the negro to have obtained it from any part of the body, such pretenses being by no means an uncommon experience in this part of the country. In commenting upon a case of hysterical pretension of parasitism by myriapods reported by the writer last year in this journal a friend, after mentioning several somewhat similarly fraudulent instances, remarks in a personal letter: "It seems that there are lots of people in Texas and Louisiana who spend their time in regurgitating quantities of invertebrates of different groups!" And the writer is somewhat disposed to agree with the comment. After close inquiry however there does not appear any reason in the circumstances of the case to refuse the declaration of the patient that the specimen was really discharged as related, either from the respiratory or alimentary tract, and that therefore for at least some brief period of its existence it was an accidental human parasite. Speaking of the allied English species (*T. mollitor*) Blanchard* and Railliet† both mention that Hope has collected a number of instances of parasitism of man by the adult and larval form; the writer is unable however from the literature at command to consult the original article.‡ An examination of the intestinal contents of the specimen show the matter to be made up for the most part of a yellow, amorphous granular substance in which are numerous bacteria and oil globules and a small proportion of vegetable refuse. This last element may of course have been obtained from the stomach of the host, but some of this refuse was evidently of a woody nature, unlikely to have been so obtained; if therefore it really was in the stomach the larva could hardly have been present any great length of time and probably was swallowed shortly before it was ejected (at most within a day or two) in some of the rough cereal food of the subject. The amount of oily matter found is suggestive although not conclusive that it had fed not entirely on vegetable material.

The larvæ of the various *Tenebrionidæ* are very nearly alike and there is considerable difficulty in determining the exact specific position of such isolated examples, but the writer believes the specimen to be that of the above-named spe-

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* From the Pathological Laboratory of University of Texas, 1902, No. 3.

* Traité de Zoologie Médicale, Paris, 1890, Vol. II, p. 566.

† Traité de Zoologie Médicale et Agricole, sec. ed., Paris, 1895, p. 895.

‡ F. W. Hope "On Insects and Their Larvæ Occasionally Found in the Human Body." Trans. Entomol. Soc. of London, II, p. 256, 1840.

cies. It measures 5½ millimeters in length and from 0.6 to 0.9 mm. in thickness, the posterior portion being somewhat thicker than the anterior and middle parts. It is nearly cylindrical in shape, of a yellowish color, composed of 13 segments (including head and anal segments), of which the last thoracic and first three abdominal segments are comparatively short, being about half the length of the prothorax and mesothorax and of the fourth and succeeding abdominal segments. The covering is firmly membranous and shelly, devoid of sculpture save as a collar on the anterior margin of the prothorax. Close to the anterior angle of the pleuræ there is in each of the ordinary segments a small spiracle barely covered by the posterior border of the preceding segment. The anal segment bears two small dark-tipped spines on its dorsal and two very small prolegs on its ventral surface; anal valve transverse. Head slightly darker than body; antennæ short subclavate, three-jointed, projecting downward and forward from lateral part of procranial surface; epicranium marked with faint median sulcus extending from occiput; two small ocelli; post- and ante-clypeus fringed with a row of small setæ; labrum rounded, with fringe of setæ; mandibles strong, brownish, toothed; mentum entire; maxillæ spatulate. The surface of each segment shows irregularly situated and sparse small setæ. Three pairs of thoracic legs, small; trochanters small; surface of legs beset with small hairs; inner surface of trochanter and femur beset with a number of tiny, brownish tubercle-like projections.

Hypoderma Bovis.—Specimen No. 636 of the pathological collection of the school is a larva sent the writer in 1896 by Dr. F. Herff, of San Antonio, Texas. It was obtained from the person of a white boy, a resident of that city. Several weeks prior to the time when the specimen was obtained by Dr. Herff the patient had had several small doughy swellings about two centimeters in diameter at the base and about half a centimeter or more in height on the back of the neck and in the occipital part of the scalp. Occasionally these were attended by a sharp pricking sensation. They gradually disappeared but the patient complained of the persistence of the pain which slowly extended downward along the nape of the neck. After a week or ten days a similar swelling appeared close to the upper border of the left (?) shoulder-blade and in a few days Dr. Herff detected at the summit a small opening in which appeared a minute body. This on extraction with a pair of forceps proved to be a dead and apparently somewhat macerated larva of an *œstrus.* After removal the swelling and pain rapidly disappeared. Dr. Herff in the communication accompanying the specimen referred to several similar experiences in his practice in West Texas; and stated his belief that in this case there were originally two of these larvæ in the subcutaneous tissue, the second having possibly emerged before the discovery of the specimen.

As indicated, the specimen is not in good condition, being more or less macerated and the anterior segments and head being very poorly outlined.

There are, however, eleven segments, the broadest being the third or fourth and the terminal segments, tapering to a blunt point (Fig. 2). It is white in color, with a thin, diaphanous skin; when received was flattened, possessing the appearance of having originally been nearly cylindrical. The buccal region bears no discernible armature; there are no mamillations on the surface and the first, second and third segments are free from spines, complete circlets of tiny, pale spines appearing on the anterior border of the fourth and fifth (posterior border of third and fourth?) directed forwards, and on the posterior border of the succeeding segments to the eleventh directed backwards. On the dorsal (?) surface of the eleventh and to a less degree on the tenth there is a longitudinal row of similar spines with a few outlying ones irregularly placed.

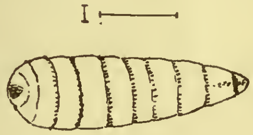

Fig. 2.—Enlarged view of larva; line above represents actual length.

The writer regards it as probably an example of the next to last larval stage of the *Hypoderma bovis,* with which it agrees except in the arrangement of the spines, rather than one of the more common American cuticoles of the genus *Dermatobia* (berne, macaque worm, etc.). It differs from the latter both in size and in the number and arrangement of the spines. It is true that in this latter respect it does not correspond with the usual examples of the bovine *œstrus* larva nor of any of the other *œstrus* larvæ with which the writer is acquainted; and it is possible that it belongs to some unknown form. Its general resemblance to the above-named larva, the unarmed buccal arrangement, the well-known failure of proper development of these larvæ of the bovine *œstrus* in man and animals other than cattle, the known wandering of the larva of the *Hypoderma bovis* in the subcutaneous tissue of the host, would appear to the writer to justify at least a tentative reference of the specimen to this latter species.

The absence of the mamillations usually well marked on the surface of the larvæ of the *Dermatobidæ* is suggestive; and the clavate shape of the specimen does not approach the pear-shaped form of the latter. Nothing in the history of the case as obtained by the writer throws light upon the mode or time of acquirement of the larva, which, if it follow the usual rule, probably existed in the subcutaneous tissues for several months before making its presence known to the patient.

CELLULITIS OF THE ORBIT, EYELIDS, FOREHEAD AND CHEEK, FOLLOWING AN INFECTED SORE UPON THE FINGER: TREATMENT BY FREE INCISIONS AND SUBCUTANEOUS INJECTIONS OF SUBLIMATE.*

BY CHARLES STEDMAN BULL, A.M., M.D.,
OF NEW YORK.

MISS F., aged fifty-eight years, governess, was first seen March 24, 1902, and told the following story: Ten days before she noticed a small pimple on the terminal phalanx of the right index finger, which was soon accompanied by great swelling and severe pain. It was diagnosed as paronychia, and on the third day it was freely incised. She thinks she rubbed her left eye with this finger, while it was discharging. Three days before I saw her the left eye smarted, the lids became rapidly swollen and very painful, and there was a thin serous discharge which was stained with blood. The symptoms grew rapidly worse, and when I saw her, the condition was as follows: The lids were enormously swollen, very hard and purplish in hue, and there was very extensive and pronounced chemosis. The eyeball protruded between the swollen lids and was completely immovable. The orbital tissue was densely infiltrated, and the infiltration extended from the swollen lids upward upon the forehead, outward upon the temple, and downward upon the cheek. The cornea was still clear, the iris was dilated and immovable, and the lens was clear, but the vitreous was very cloudy and no view of the fundus could be obtained. The parotid and upper cervical glands on the right side were enormously swollen and very hard. A slight serosanguinolent discharge could be wiped from the conjunctival surface of the left eye. There was constant severe pain, and the temperature was $102\frac{2}{5}$° F. The right eye was intact and remained so throughout.

The patient was at once sent to the Eye Infirmary and put in a private room in the isolation pavilion. Smears were made from the slight conjunctival secretion and examined. The secretion contained a few pus cells, with one or two rather large micrococci within the cells, and occasionally three within a cell, but nothing characteristic or distinguishing.

Constant hot applications were made to the swollen parts, and owing to the rapid pulse and irregular heart action, iron, quinine, digitalis and strychnia were administered in large doses, together with milk and whisky.

In spite of the treatment, the infiltration of the subcutaneous connective tissue continued to extend. At no time was there any purulent discharge from the conjunctiva or orbit. On the third day after entrance into the hospital, two large free incisions were made into the orbital tissue on the nasal and temporal sides of the eyeball, in the hope of relieving the tension and finding pus, but without success. The cornea began to show infiltration on the fourth day, and within a week was entirely opaque and appeared about to slough. The incisions into the orbital tissue were repeated several times, and free incisions were also made in both lids and just above the eyebrow, but in no case was pus found. The slight secretion from the conjunctiva did not change in character, but was frequently tinged with blood. In the folds of the chemotic conjunctiva appeared what looked like small sloughs of the conjunctiva, which could be readily removed with the forceps, leaving a bleeding surface. These sloughs were carefully examined on repeated occasions by Dr. Dixon, the pathologist of the Infirmary, but nothing very definite was determined. The smears gave a negative result. The sloughs were filled with cocci; some diplococci, and on one occasion what looked like pneumococci, were found, but the mass of the cocci resembled the *Staphylococcus albus.* Cultivations after twenty-four hours showed colonies of the *Staphylococcus albus.*

On April 2, nine days after the patient entered the hospital, Dr. Dixon removed two sloughs from the conjunctiva, and placed one in the anterior chamber of the left eye of a small gray rabbit, and the other slough under the palpebral conjunctiva of the right eye of the same rabbit. Twenty-four after inoculation there was no reaction in the *right* eye. In the *left* the anterior chamber showed considerable opacity, and the pupil could not be seen, and the wound gaped. Two days later there was a slight swelling about the implantation in the lid of the right eye. On the sixth day there was a distinct reddish nodule in the conjunctiva of the *right* eyelid. In the *left* eye there was iritis with dilated vessels, a hazy cornea and aqueous humor, but no sign of panophthalmitis.

On the fourteenth day after I saw the patient, incisions into the orbit and lids, having failed to find pus or diminish the tension, I began subcutaneous and subconjunctival injections into the lids and orbit, of a solution of sublimate $(^1/_{1000})$, injecting five minims of a four-per-cent. cocaine solution and 10 minims of the sublimate solution each time. The injections into the orbit were made as deep as possible in the orbital tissue. The injections caused a little smarting but no severe pain. They were repeated daily until May 3 (the 38th day). On the seventh day after beginning the injections, the upper lid and eyebrow showed evidences of fluctuation, and free incisions evacuated about two drams of pus and some blood. The wounds were thoroughly irrigated and packed with gauze. The case began to show an improvement after the third injection, the tissues becoming softer, and the constant pain being very much less.

By May 1, considerable motion had been regained in the upper lid and in the movements of the eye outward, inward and downward. All hardness had disappeared, and the infiltration was confined to the inner end of the lower lid and inner angle of the orbit. The cornea had partially cleared and the iris was widely dilated.

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* Read before the American Ophthalmological Society, July 16, 1902.

By May 16 there was free motility of the eyeball in all directions, and the upper lid could be raised so as to reveal the entire cornea. The corneal opacity had cleared, except for a small central area, and the fundus could be indistinctly seen.

By June 16 there was no sign of infiltration or swelling in the lids or orbit, the cornea was still clearer, and the fundus showed a papillitis in the atrophic stage. The lens and vitreous were perfectly transparent, but there was no perception of light.

The swollen glands on the right side, which had remained unchanged until after the sublimate injections were begun, gradually softened and regained their normal condition. In the last number of the Royal London Ophthalmic Hospital Reports, Vol. XV, Part II, Nettleship reports an interesting case, which bears upon the one just reported. The patient was a woman, aged forty-two years, who had a slight "festered sore" upon the dorsum of the right index finger, which was followed by a swelling in the axilla. The sore soon healed, but the axillary swelling developed into an abscess. She began to have headaches, and in a few days complained of severe pain in the *left* orbit whenever the eyes were turned to the left. The abscess in the axilla was opened and the temperature became normal, but in a few days the *left* eye became blind, without any signs of orbital cellulitis. Ten days later the *right* eye failed rapidly in the same way. Both eyes showed papillitis, without any evidence of orbital cellulitis or affection of the oculo-motor nerves. The eye complications occurred from 10 to 12 weeks after the sore on the finger. Both eyes eventually recovered useful vision. Nettleship is inclined to believe that both optic nerves were affected at the chiasm by inflammation of the underlying periosteum or bone, and that a septic embolism was the cause. There was nothing to suggest thrombosis of the venous sinuses nor suppuration in the sphenoidal sinus.

A COMPARATIVE STUDY OF THE VALUE OF METHYLENE BLUE AND QUININE IN THE TREATMENT OF MALARIAL FEVER.*†

BY
JOHN T. MOORE, M.D.,
AND
W. L. ALLISON,
OF GALVESTON, TEXAS.

Our object in taking up the study of methylene blue was to see if we could by using it at the same time as quinine, and on the same type of cases, come to any definite conclusions as to their relative value in the treatment of intermittent fever. As the cases were admitted to the ward one was assigned to methylene blue and the next was given quinine. No attention was paid to the type of case in this assignment, but a blood examination was made, so as to keep a record of the case. The conditions were recorded as nearly as possible in all the cases under treatment.

Our diagnoses are based entirely upon the microscopical findings, and the treatment was not begun until the parasites were found in the blood. After this we followed the cases as nearly as possible with daily blood examinations. They were kept on the form of treatment adopted until the parasites disappeared entirely, or until there was evidence that the drug had failed. Twenty cases were studied in this way, giving us ten cases to each drug.

The dosage in each series of cases was kept as uniform as possible. Full doses of each drug were used, 15 to 40 grains of quinine was given each day, and 20 grains of methylene blue divided into four doses was given to those assigned to the treatment by methylene blue.

The Drug and Its Administration.—A distinction must be made between methyl-blue, the dye and methylene blue, the medicinal agent. Pure medicinal methylene blue must be used. By getting the drug from a reliable manufacturer you are practically assured that an uncontaminated article is given.

In Foster's Practical Therapeutics, Vol. I, we have a simple test. Make a solution of methylene blue. The meniscus is said to be of a greenish instead of a blue color, while with methyl-blue there is a blue color.

By adding sodium hydroxide you get a purplish red color with methyl-blue, while methylene blue turns a deep violet.

It is important to be able to recognize the difference, for toxic effects are reported in the use of methyl-blue.

We adopted as the dose of methylene blue 20 grains per day divided into four capsules of five grains each.

Powdered nutmeg should be administered along with methylene blue to lessen the tendency to strangury. We gave two grains of powdered nutmeg with each five grains of methylene blue. Thayer* gives one and one-half grains of methylene blue with an equal amount of powdered nutmeg, five times per day. This dosage we think is too small.

An objection has been made in some quarters that patients did not like to take the blue, but we found not the slightest difficulty along this line.

Some authorities begin the administration five or six hours in advance of the expected paroxysm, but in our cases the drug was given after meals three times a day. It was given in ordinary gelatine capsules and followed by a large draught of water.

Guttman and Erlich† gave seven and one-half grains six hours in advance of the expected attack, and following the attack one and one-half grains was given five times daily.

Some authorities recommend its use hypodermically, but we have not considered it advisable to so use it.

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* Paper read before the Texas State Medical Association, Dallas, Texas, 1902.

† From Studies in the John Sealy Hospital, University of Texas, Medical Department, Galveston, Texas.

* Johns Hopkins Hospital Reports, 1892.

† Wiener med. Woch., Oct. 24, 1892.

Action of Methylene Blue.—The drug is supposed to be a parasiticide and antiperiodic. Its power to stain the malarial parasite is said to have led to its use as an antiperiodic. When used directly upon the parasite in a weak solution it at first checks their movements, later killing them and then staining them. We have not succeeded in staining the living parasite either by administering the drug by the mouth or by mixing the blue directly with the blood in a normal saline solution. In the former the parasites showed some activity but in the latter instance, where mixed directly with the blood they were observed to lose their movement as the stain showed itself.

The secretions in a very short time became tinged with blue. We noted the bluish tint of the conjunctivæ, probably due to the staining of the tears. We doubt that any living and healthy tissue or protoplasm will take the stain in sufficient quantity to manifest itself. We did, however, in a number of instances note what we took to be methylene blue granules in the leucocytes.

The drug is eliminated by all of the secretions. Lemanski and Mann* detected it in the saliva 40 minutes after administering it by the mouth, and its rapid elimination by the kidneys has led to its use as a diuretic. Our observations did not cover this phase of the subject.

We have several times noted the analgesic qualities of the drug.

Analysis of Cases.—Of the 10 cases put on methylene blue, eight of these were estivo-autumnal, and two of them were double tertian.

The average duration of sickness was 29 days.

Case I was of 28 days' duration. The patient was put on three grains of methylene blue every four hours. This treatment was begun July 11, and on July 12 the dose was increased to five grains every four hours.

He had a distinct chill on the thirteenth, but after this paroxysm the temperature came to normal. The parasites had entirely disappeared from the blood by the 29th of July. On August 1 there was noted a rise in the temperature, and on the following day there was the same occurrence. The blood was examined but no parasites were found. As the patient was complaining of a severe headache all the time it was decided to give him 10 grains of quinine every four hours; this was done with complete relief of the headache and the fever.

Case II was put on five grains of methylene blue every four hours, July 12. He had daily chills until on the sixteenth and seventeenth he missed, but on the eighteenth there was a slight rise of the temperature above the normal.

Parasites were demonstrated in the blood in considerable numbers each day. On the nineteenth he had another distinct chill, and there was noted an increase in the number of parasites present in the blood. He was now put on 10 grains of quinine sulphate four times a day for two days, and then he was given three grains three times daily until he left the hospital, July 27. The blood was examined on this date but no parasites could be found.

Case III was of estivo-autumnal type. This case on August 4, through mistake, was put on two teaspoonful doses of elixir of iron, quinine, and strychnia three times a day. His temperature came to normal on the following day. The parasites were seen to be quite abundant in the peripheral blood, so on the seventh he was placed upon methylene blue, 20 grains per day in four doses. The parasites were observed to rapidly disappear.

Case IV.—This case was admitted August 17, and was put on 20 grains of methylene blue per day in four doses, and continued until the twenty-eighth. A blood examination, made on the thirtieth, showed no parasites present, but on account of the development of a bubo he was transferred to the surgical ward where it was opened and drained. On September 3, patient had a chill. He was put on tr. ferric chloride and Fowler's solution and methylene blue. The parasites had entirely disappeared by September 11.

He was given elix. iron, quin. and strych. as a tonic and dismissed.

Case V was one having present two groups of tertian parasites in the blood. The patient was admitted on August 21, just after having had a chill, the temperature being 103° F., and with the sweating stage following soon afterward. His blood was examined on the twenty-second and a few parasites were found. Several blood examinations were afterward made but no parasites could be again demonstrated. Notwithstanding that no parasites were found he was put on methylene blue, which was continued until the twenty-ninth. The temperature never rose above normal after midnight of the twenty-first. We feel that this was a case of spontaneous cure, as the patient had a normal temperature and no parasites present before the methylene blue was given.

Case VI was one of estivo-autumnal fever, the blood containing many crescents and ovoid forms. After four days' treatment no parasites could be demonstrated. This case had no fever when admitted to the hospital, nor did the temperature rise above the normal during his stay in the ward.

Case VII was one of malaria and amebic dysentery. The parasites disappeared from the blood after two days' administration of the methylene blue. The patient had been admitted September 13 for dysentery. Chaparro Armagosa was given for the dysentery with complete relief. On the sixteenth he had a distinct chill, but the parasites had been found on the fourteenth, and the treatment for malarial fever was begun. Although the parasites had disappeared from the peripheral blood the temperature remained up. He insisted upon going out so he was discharged on the twenty-fifth. He may have been suffering from an abscess of the liver, thus giving rise to the abnormal temperature. No

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* Le Bulletin Med., Jan. 29. 1893.

CHART I. METHYLENE BLUE CASES.

Case.	Age.	Type.	Duration.	Complications.	Result.	Time of Disap. of P.	Remarks.
1. F. H....	36	Estivo-Autumnal.	28 days.	Severe headache.	Doubtful.	28 days.	Temp. normal in 2 days. Hyaline ring, bodies and crescents.
2. E. A....	22	Double-Tertian.	7 days.	Severe headache.	Failed. Cured by Quin. Sulph.	Parasites pres. after taking Blue for 7 days.	Quinine given on 18th and 19th. No parasites on 27th.
3. P. R....	22	Estivo-Autumnal.	8 days.	Headache, nausea, vomiting, burning on urination.	Cured.	11 days.	Temp. normal before Methylene Blue was given.
4. M. J....	29	Estivo-Autumnal.	13 days.	Pain on micturition. Bubo.	Relapse. Cured.	No parasites on August 30, after taking Blue 13 days.	Chill Sept. 3. Parasites present. Sept. 30th, was sent to Surg. Ward.
5. J. C....	35	Double-Tertian.	6 days.	Slight headache. Severe burning on micturition.	Spontaneous Cure.	No parasites seen after 24 hours.	
6. P. C....	27	Estivo-Autumnal.	90 days.	Pain on micturition.	Cured.	4 days.	Crescents seen in blood.
7. W. J. M.	27	Estivo-Autumnal.	13 days.	Nausea and vomiting.	Cured.	2 days.	Ring forms.
8. D. D. C.	49	Estivo-Autumnal.	16 days.	Headache; heavy feeling at base of bladder.	Cured.	3 days.	Ring forms.
9. R. J. K.	45	Estivo-Autumnal.	105 days.	No headache.	Cured.	6 days.	Many crescents and ring forms.
10. J. J....		Estivo-Autumnal.	6 days.	Vomiting; pain on micturition.	Failed with M. Blue.	Cured by Quinine in 7 days.	Temp. normal on the 12th. M. Blue continued, but he had paroxysm anyway.

CHART II. QUININE CASES.

Case.	Age.	Type.	Duration.	Complications.	Result.	Time of Disap. of P.	Remarks.
1. C. D....	34	Estivo-Autumnal.	60 days.	Post malarial pruritis.	Cured.	5 days.	Ring forms.
2. J. H....	28	Estivo-Autumnal.	42 days.	None.	Cured.	3 days.	Ring forms.
3. P. L....	22	Estivo-Autumnal.	22 days.	None.	Cured.	3 days.	Ring forms.
4. J. C....	45	Estivo-Autumnal.	7 days.	Gastritis; nausea and vomiting.	Malaria cured.	9 days.	Crescents and ring forms.
5. C. H. R.	42	Estivo-Autumnal.	4 days.	None.	Cured.	5 days.	Many bodies; ring forms.
6. M. M...	30	Estivo-Autumnal.	5 days.	None.	Cured.	3 days.	Many ring forms.
7. R. K....	22	Estivo-Autumnal.	75 days.	None.	Cured.	5 days.	Intra-corpuscular ring forms, crescents and ovoids.
8. J. B....	38	Simple-Tertian.	7 days.	None.	Cured.	6 days.	Intra-cellular bodies.
9. P. L....	41	Double-Tertian.	28 days.	None.	Cured.	10 days.	Intra-corpuscular and free bodies.
10. H. D. L.	44	Tertian.	150 days.	None.	Cured.	4 days.	Intra-cellular bodies.

symptoms other than the constant temperature and the fact that amebæ had been found in the stool pointed to this condition.

Cases VIII and IX were cured in three and six days respectively.

Case X. was one of unusual interest as we failed completely to clear the blood of parasites after giving methylene blue, 20 grains per day, from October 8 to October 21. He had, however, been free of fever four days of this time, from the twelfth to the sixteenth inclusive. During these days of intermission it was noticed that the parasites were increasing in number. On the seventeenth he had a regular malarial rigor. The temperature gradually came down until on the twenty-first it reached the normal, but again on the twenty-second the parasites had increased in numbers sufficiently to cause another chill. He was now put on five grains of quinine sulphate every four hours, and was discharged on the twenty-eighth, cured.

Summary.—We may say that we cured 60 per cent. of the cases with methylene blue. One case we think was a spontaneous cure and in three others the blue failed entirely. Taking this 60 per cent. of cures they required on an average six and one-half days' treatment to effect a cure.

The cases treated with quinine were cured in an average of five and eight-tenths and there were a hundred per cent. of cures. In addition to this we cured the cases upon which we had failed with methylene blue.

With methylene blue there was more or less burning or pain on micturition, and in Cases *III, VII* and *X* there was nausea and vomiting. There was headache which seemed to stop when the blue was discontinued and in Cases *I, II, III, V* and *VIII.* Case *IX* we may say is the only one treated with methylene blue without any complications.

We were compelled in some cases to stop the methylene blue for a few days so as to relieve the burning on micturition.

We often observed that the leucocytes contained granules of methylene blue. In no case were we able to find a parasite stained. We noticed frequently after the first two or three doses of the blue that the parasites were less active and that the leucocytes were much more phagocytic in their action. We many times saw them actively engaged picking up the parasites. These effects upon the parasites and the leucocytes have been also noted many times in patients taking quinine.

Conclusions.—Our conclusions do not differ materially from those of Thayer and others who have tried methylene blue.

1. Methylene blue will destroy malarial parasites in many cases, but is less certain than quinine.
2. Methylene blue is probably most valuable in chronic cases, but has no advantage over quinine.
3. The effects of methylene blue are ordinarily more unpleasant than quinine.
4. It is useful in cases that cannot take quinine on account of some idiosyncrasy to it. Its use in cases of pregnancy is undetermined.
5. It is probably valuable in treating hematuric and hemoglobinuric fevers on account of its diuretic action; this has yet to be determined. We have had no chance to test its use in such cases.
6. We believe that quinine is quicker and much more certain and would rely upon it rather than upon methylene blue.

See Charts I and II for further comparison of results of treatment.

DESCRIPTION OF AN OSTEOPLASTIC METASTATIC CARCINOMA OF THE STERNUM FOLLOWING A PRIMARY CARCINOMA OF THE UTERUS.*

BY A. C. YODER, A.B., M.D.,
OF CHICAGO.

IN 1891 the first report of osteoplastic changes associated with secondary carcinoma in bone was made by Von Recklinghausen who reported five cases, in each of which there was a primary carcinoma in the prostate with mutiple metastases in the bones. Other similar cases were reported by Sasse,[1] Braun, Cone,[2] and Bamberger[3] and Paltauf, each of whom reported a case in the years 1894, 1896, 1898 and 1899 respectively. Erbslöh,[4] in 1901, reported five more cases with multiple bone metastases. Three of these followed primary carcinoma of the prostate, and two in females were associated with primary carcinoma of the stomach in the one case, and of the bile passages in the other.

It is seen from the foregoing that in 12 of these cases the primary carcinoma was located in the prostate; in one it was located in the stomach; and in the other, in the bile tracts. In an autopsy held by Dr. Le Count, May 28, 1900, at the St. Elizabeth Hospital of Chicago, a primary carcinoma of the uterus was found with a secondary tumor of the sternum. The patient was Mrs. R., aged fifty-one, died May 27, 1900. The postmortem examination was held 24 hours after death.

Anatomical Diagnosis.—Carcinoma of the uterus, erosion with absence of entire cervix, carcinomatous vesico-vaginal fistula, ascending pyelonephritis, dilatation of ureters, metastatic carcinoma of the liver and sternum, healed tuberculosis of the right lung, sclerosis of the aorta, anthracosis of the bronchial glands, right fibrous pleuritis, emaciation.

Abstract of the Necropsy Record.—Peculiar protrusions of bone are seen externally over the middle of the sternum and over the left sternoclavicular joint. The posterior surface of the sternum presents a thickening which on cut section is seen to be grayish in color and soft; it contains a small quantity of cloudy fluid. It measures 3.5 cm. in thickness at its deepest part and extends the entire length of the sternum, 17.5 cm., but it does not extend into the ribs. The growth is nodular in places. It measures six cm. in its greatest anteroposterior diameter. The uterus is almost obliterated by a hard rounded mass about the size of an egg, situated in the fundus but extending within two cm. of the cervix. Upon section the mass is granular in appearance, is hard, and greenish yellow in color. Directly below the tumor mass, or rather below the uterus, is seen an opening between the vagina and urinary bladder. This opening admits three fingers closely. The structure of the walls of the opening cannot be made out distinctly because of sloughing and gangrene. The lining of the vagina is smooth. The ovaries are normal in appearance. The lining of the urinary bladder is smooth and shows no changes. A section of the tumor of the uterus shows the presence of considerable connective and muscular tissue.

Microscopical Examination.—The histological structure of the uterine growth shows no peculiarities; it is a cylindrical cell carcinoma. A section of the tumor mass in the liver shows an infiltration into the liver substance of epithelial cells which are arranged in the form of small nests. The peripheral cells of any nest are usually large. tall, columnar epithelial cells, while the central cells are much changed, frequently staining very darkly with hematoxylin. The stroma between the nests is almost purely fibrous. The liver substance is seen within the tumor growth in a few places. A study of a number of sections from various parts of the tumor of the sternum shows formations which have evidently resulted from different processes. Areas are frequently found in which osseous tissue predominates, showing the Haversian systems distinctly. This bone is traversed by relatively transparent areas of narrow, irregular, linear bands of fibrous connective tissue. In some of these areas are seen collections of epithelial cells. Such appearances no doubt represent the early changes associated with secondary carcinoma of bone. An interesting feature in such fields is the presence of large multinucleated bone corpuscles, which lie alongside the bone tissue in depressions, Howship's lacunæ. The osteoclasts are applied directly to the bone on one hand, and are frequently surrounded by the epithelial cells of the carcinoma on the other; sometimes, however, a little fibrous connective tissue intervenes between the carcinoma cells and the osteoclasts (Fig. I). There are evidently regions of lacunar absorption with an early pari passu involvement of the bone by the carcinoma.

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* From the Pathological Laboratory of Rush Medical College.

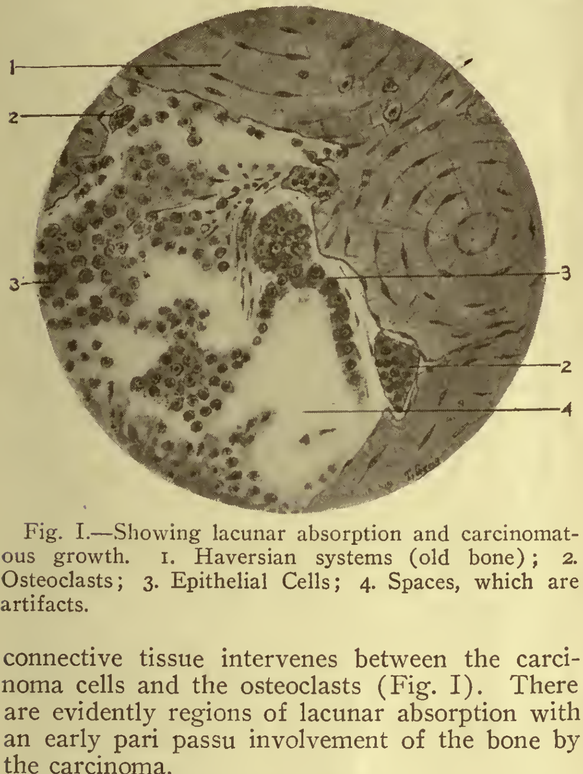

Fig. I.—Showing lacunar absorption and carcinomatous growth. 1. Haversian systems (old bone); 2. Osteoclasts; 3. Epithelial Cells; 4. Spaces, which are artifacts.

In other fields the bone tissue is much reduced in amount and the carcinoma cells predominate. The latter occurs in microscopical cyst-like formations, varying much in size and separated from each other by fibrous connective tissue and remnants of bone. The smaller areas, however, are built up solidly of carcinoma cells of the cylindrical-cell type and contain large, heavily stained nuclei. No karyokinetic figures can be found even though careful search is made; this may be due to inappropriate fixation or to slow growth. Many of these areas show degeneration of their centers; this consist of a granular débris, staining pink with eosin, surrounded by outlines or "shadows" of cells, the whole enclosed by a layer of epithelial cells from one to several cells deep. The cells along the periphery are distinctly cylindrical but as one passes toward the center they become more circular in outline. What little osseous tissue is left in these regions where tumor growth is evidently so active, exists in irregular islands or trabeculæ directly surrounded by a relatively small but variable amount of fibrous connective tissue. This osseous tissue has stained in a characteristic manner which renders it easily recognizable. The interior of the islands and trabeculæ show lacunæ containing bone corpuscles with well-stained nuclei; canaliculi radiate from the lacunar spaces. The intervening ossified tissue has stained blue with the hematoxylin indicating that it is calcified; these features and the size and arrangement of the lacunar spaces and the prominence of the canaliculi indicate that it is old bone. Old osseous tissue is recognized in compact bone by the presence of Haversian systems, or remnants thereof.

This, of course, implies that we find lacunar spaces arranged in concentric lines about the central canal. Canaliculi extend between these lacunar spaces and to the Haversian canal. In looking for old bone in cancellated osseous tissue, one cannot be guided by the presence of Haversian systems. However, here, as in compact bone, the lacunar spaces are relatively large and there is a greater disproportion between the size of the nucleus of the bone corpuscle and the lacunar space, than in new bone. Then, too, the calcified parts of the old bone have taken the hematoxylin stain more intensely than does the osteoid tissue of new bone. Halisteresis is another feature which characterizes many of the fields, especially in such places where the epithelium of the carcinoma predominates over the osseous tissue. Bone undergoing halisteresis does not show lacunæ with their radiating canaliculi, nor bone corpuscles, or, at the most, shows these structures only in lessened numbers. In such parts of this sternum in which halisteresis has occurred, the sections show bone tissue which is more or less fibrillated, in some places taking the hematoxylin stain indicating the presence of calcium salts, and in other places taking the eosin stain, showing entire decalcification. Frequently, more normal bone is surrounded by a zone of the pink stained decalcified bone, and, in more favorable places, old bone showing Haversian systems gradually change into more structureless tissue. Halisteresis, as seen in these sections, is characterized by the gradual transition from normal bone to bone which has lost most of its bone corpuscles, lacunæ, and canaliculi; this gradually changes to tissue which is almost or wholly structureless and decalcified and hence stained pink. Small and irregular lines of disintegrated or fibrillated tissue (lattice-like or "Gitterfiguren") appear in the border line between the partially and wholly decalcified zones.

In other fields are seen irregular narrow trabeculæ of bone that contain no lamellæ. The bone corpuscles lie in various directions, and they more nearly fill the lacunar spaces. These trabeculæ are surrounded by vascular fibrous connective tissue with small osteoblasts between the bone and the fibrous tissue (Fig. 2). Such trabeculæ are newly formed bone and it is worthy of note that in such areas the large multinucleated bone corpuscles are absent; also that there is no invasion of carcinoma here. Other evidences of new bone are found in tissue that is quite homogeneous, stains pink, and contains cells that correspond to bone corpuscles; this tissue surrounds old bone. This, no doubt, is osteoid tissue corresponding remarkably well with the description and figures of such tissue by Kimura.[5] The lacunar spaces of this tissue are not arranged concentrically, and are relatively small and do not show many canaliculi. They lie in various directions, often parallel to the long axis of the zone of osteoid tissue. The nucleus of the corpuscle fills nearly all of the lacunar space. It is frequently difficult to decide whether these pink stained zones are products of halisteresis, that is, decalcified old bone, or whether they are newly formed bone or osteoid tissue formed either by osteoblasts or a metaplasis of the fibrous connective tissue. The features which must be looked for in deciding this point are the presence or absence of Haversian systems and trabeculæ of bone, of the "Gitterfiguren" of Von Recklinghausen, the arrangement and relative size of the bone corpuscles, and the manner of their staining. The periosteum has also been invaded by the carcinoma with resulting formation of new bone. Irregular trabeculæ of bone extend from the periosteum into the tumor mass. Areas of carcinoma growth separate the trabeculæ from each other. Not only the periosteum but also the surrounding tissue has been invaded by the carcinoma, partly in the form of nests of carcinoma cells with subsequent cyst-like formations and partly as very narrow and long bands of epithelium. In these collections the cells are very small and the nuclei deeply stained and clumped together.

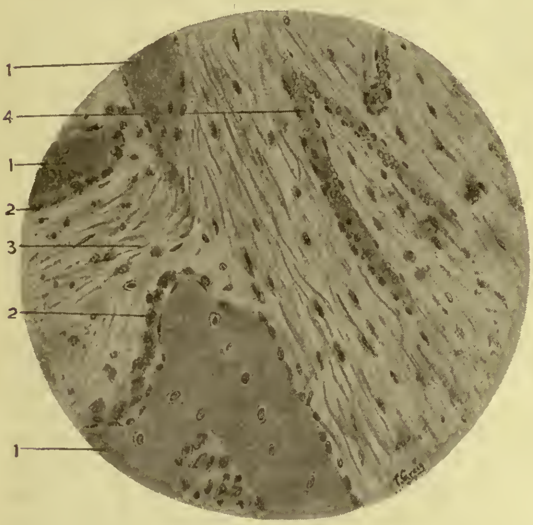

Fig. II.—Showing formation of new bone. 1. Irregular trabeculæ of new bone; 2. Osteoblasts; 3. Fibrous connective tissue; 4. Blood channels.

The essential features of the histological structure of this metastatic carcinoma in the sternum may be summarized as follows: 1. New bone and osteoid tissue exist, produced in part by the periosteum, but mainly through the process of metaplasia, fibrous connective tissue being changed into bone through the intermediate production of osteoid tissue. 2. Resorption of old bone by (*a*) lacunar absorption and (*b*) halisteresis. 3. Lacunar absorption predominates when the bone is first invaded by the carcinoma; later, the bone being considerably involved, halisteresis predominates. 4. The carcinoma is of infiltrating form seemingly following previously formed vessels, which is especially well shown in the periosteal involvement and in the tissue surrounding the periosteum; but even in solid bone there frequently appear small areas of carcinoma as if the epithelial cells had grown into Haversian canals. In this respect there is a marked similarity to the descriptions of Von Recklinghausen, Cone and Erbslöh. 5. Resorption of bone, invasion by the carcinoma, and formation of new bone go on at the same time, the latter "not only as an evidence of reactive irritation at its border, like chains of outposts (guards) formed by the old tissue in the manner of an inflammatory proliferation against an invading enemy, but also as an integral part of the bone tumor even though it was a carcinoma" (Cone[6]). The American Text-Book of Pathology[7] states that "secondary metastatic carcinoma of bone occurs with a relatively striking frequency after primary carcinoma of the breast in women, of the prostate in men, of the thyroid gland, and of the bronchi." Von Recklinghausen suggested that secondary carcinomatous involvement of bone occurs as frequently in men after primary carcinoma of the prostate as it occurs in women after primary carcinoma of the breast. Williams[8] reported 79 necropsies of uterine cancer in which he found one case of metastasis in bones, the right tibia and the right innominate. He further states that "dissemination in the bones is rare in uterine cancer, but in addition to the above mentioned case, I know of instances in which it has occurred in the femur, humerus, and ribs respectively." Cullen[9] sums up the present status of our knowledge of metastasis following primary carcinoma of the uterus thus: "Our knowledge of metastasis following carcinoma of the uterus is rather meager. R. Williams, in 1896, in 79 autopsies found metastases 16 times, or in 20.2 per cent.; and although he speaks in detail of secondary growths in the skin, pluræ, peritoneum, lungs, heart, liver, kidney, tibiæ, and innominate bones, he fails to state whether the growths had started in the cervix or in the body, and whether they were squamous cell carcinomata or adenocarcinomata. Accordingly we can make no further use of these cases in speaking of metastasis. Unfortunately, the majority of the cases in the literature are also lacking in the necessary details."

The above citations indicate the reasons for reporting this case. The histology of osteoplastic carcinoma is also of interest since it is shown by this and other records that bone behaves toward the epithelial cells as though they were foreign elements; here, as elsewhere, the stroma of the carcinoma participates actively in the process of tumor growth.

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LABORATORY METHODS AND THE COUNTRY PRACTITIONER.

BY
EDWIN A. MURBACH, A.B., M.D.,
AND
JOHN U. FAUSTER, M.D.,
OF ARCHBOLD, OHIO.

IN this busy age of specialism we are too prone to leave finer points of diagnosis to the specialist in laboratory methods. So far as advanced work of a purely scientific character is concerned this is as it should be, and to the laboratory worker is due the credit of establishing the true value of different methods and reducing complicated procedures to a simplicity available in the everyday work of the general practitioner.

Until comparatively recent years clinical laboratories well equipped for thorough instruction of medical students could scarcely be said to exist even in our best schools. Of late, however, clinical laboratory instruction has entered the curricula of our best medical institutions and is given the same importance as work along chemical and pathological lines.

Instruments of precision have been simplified and their scope widened, so that now, with the knowledge of their use obtained in college or post-graduate study, every practitioner should have at least a small laboratory as an aid in diagnosis, and there is no excuse for his not equipping himself for work which will be of the utmost service to him in his routine daily practice. To be abreast of the times and able to give his patients the benefit of the rapid progress in medical science, the practitioner must extend his methods far beyond the routine examination of urine for specific gravity, albumin and sugar. The time of practice according to empiricism has long since been relegated to the past, and although any quack, with a smattering of medical knowledge and a smooth tongue, may have some following, yet the better class, who do some thinking along medical lines, will take an interest in the physician who shows by his painstaking care in examinations that he means to do his work scientifically and well, will have faith in him and employ him when in need of medical care and attention.

In the past few years we have heard of the more progressive of our city brethren fitting up laboratories for more advanced work and on them, not only their coworkers in the city but their less fortunate brother practitioners in the rural districts, were dependent for positive knowledge concerning secretions, excretions and pathological specimens. To show that laboratory methods can and should be used by the country practitioner just as well as his city neighbor, and to encourage our fellow physicians in this work is the object of this paper.

Laboratory methods naturally divide themselves into: (1) Examination of the urine; (2) examination of the gastric contents; (3) examination of the blood; (4) examination of the sputum. Besides these are other minor, though often just as important, examinations of secretions and excretions in the various diseased conditions. Examinations by means of the X-ray is another method, as well as the Widal test for typhoid and the tuberculin test for tuberculosis.

The Urine.—Clinical examination of the urine is done in a more or less careless way by most physicians, many being satisfied by a determination of the specific gravity and reaction. If the specific gravity and reaction show nothing to excite suspicion perhaps the urine is not tested at all for sugar and albumin, or if sugar or albumin are found, no attention is paid to the amount and its variation from day to day. Some general observations should be made in the examination of urine before proceeding with the chemical and microscopical tests, as for instance, the quantity passed in 24 hours, the specific gravity, color, odor, reaction, clearness or turbidity and the presence or absence of floating particles. While these physical properties are not necessarily of specific importance they tend to guide the examiner in his further investigations by indicating what may be especially looked for; as an increased amount (polyuria) found in diabetes, the resorption of certain effusions, in convalescence from acute febrile diseases, hysteria, and some kidney diseases, as chronic interstitial nephritis, and granular atrophy of the kidney. Decreased amount (oliguria) found in acute nephritis and other acute diseases, also in chronic diseases that are attended with extensive dropsy. The specific gravity and, in fact, all other physical properties of the urine are of as much importance as the above, and with it will serve as guide-boards helping the physician to become more familiar with his patient's condition and to make more quickly and satisfactorily the further observations, chemical and microscopical.

Albumin.—Serum-albumin, the albumin most frequently found and of the most importance from a clinical standpoint, is never present in normal urine. Simon says, "The presence of albumin in every case is a pathological phenomenon." This pathological constituent should be very carefully looked for and when found, even in very small quantities, its presence should be followed by a thorough investigation so that the physician may know whether it is of the transitory type, the so-called "functional albuminuria." A very eminent clinician says that after a comparative study he is convinced that the three tests for albumin stand in the following order as to delicacy: (1) Nitric acid test; (2) heat test; (3) potassium-ferrocyanide and acetic acid test. After detecting albumin in the urine the number of grams per liter can be determined by the use of Esbach's albuminometer which, for clinical purposes, is perhaps the most convenient and within the reach of every general practitioner, no matter how limited his time nor how complete his laboratory.

Sugar.—It must be remembered that sugar may be present in strictly normal conditions, yet the methods used by the general practitioner for the detection of this constituent are not delicate enough to show its presence; hence urine is said to contain no sugar when it can not be recognized by the ordinary sugar reactions. Like albumin it may be present in a transitory form, as after anesthesia, convalesence, from acute febrile diseases and the so-called "digestive glycosuria." The normal limit of the assimilation of glucose varies in different individuals, a majority of investigators regarding a glycosuria that follows the injection of one hundred grams of pure glucose as abnormal.

Any of the various tests that the physician desires may be used in the routine work, although it is doubtful if any will serve him better than Fehling's. After sugar has been found its quantity may be determined by the use of Einhorn's saccharometer, or by Purdy's method which one can find described in any of the standard works on urinalysis. This method requires but very little time, probably 10 minutes, and no very great amount of skill, yet it has the advantage of being accurate and not requiring much apparatus.

A certain amount of precaution is required to perform these tests well, especially Purdy's, and since it is made in order that the variations in the quantity of glucose present in the unine may be noted from day to day, it is necessary to be precise. The examiner should remember that albumin must be removed by boiling and filtration, that Fehling's solution must be boiled before the urine is added and that earthy phosphates must be removed if they are in excess. Other matters of more or less importance must be observed, yet in the aggregate minor matters are important, for without observing them one cannot be precise, and precision is the element of good work in the laboratory.

Bile.—The detection of bile is important from the fact of its being found not only in obstructive jaundice but in the more serious conditions, hepatic congestions, cirrhoses, carcinoma and tumors.

Indican.—The amount of indican in the urine is increased by intestinal putrefaction, by conditions in which the peristaltic action of the small intestine has been impeded and in conditions where there is albuminous putrefaction taking place in the body outside the intestines. The fact that it is not increased in conditions affecting the large intestine nor affected by simple chronic constipation makes it of importance not only from a diagnostic standpoint but also in the prognosis and treatment as well.

Acetone.—Acetone is important because it accompanies grave cerebral disorders. Its appearance in diabetes indicates an advanced stage of the disease. Hirschfried says that in every case of diabetes the excretion of acetone is to be carefully watched and when the acetonuria reaches a dangerous height, the carbohydrates are to be freely administered. Acetone may also appear in slightly increased amounts in a number of other conditions which are of no special significance.

Mention might be made of the importance of various other physical properties of the urine and their significance when disturbed. The diminished amount of chlorides, found in lobar pneumonia is of great value in the differential diagnosis of this form of pneumonia from pleurisy and empyema. The increase and decrease of phosphates and their significance as well as that of urea and uric acid are likewise of importance. The diazo-reaction is especially valuable in the diagnosis of typhoid fever and in the prognosis of pulmonary phthisis; this reaction, when found in the latter-named disease indicates its rapid increase and incurable condition. As to the relation of the reaction with typhoid much has been said for and against it, so that many have been led to believe the reaction is far from being reliable, yet so eminent a clinician as Simon says he has carefully studied this problem for ten years and maintains that the test is a most important one in the diagnosis of the disease.

All these observations can be made by any general practitioner; time so employed is not wasted and when once made their usefulness and importance become more and more manifest.

Microscopical Examination.—The microscopical examination of the urine is as important, if not more so, than the chemical analysis. Without a centrifuge this analysis is well-nigh impossible; for urine, if allowed to stand until the sediment has gravitated, undergoes a fermentation and with this fermentation certain solids are formed which may lead the examiner astray; then too the lighter casts fail to settle and are thus not detected; bacteria infect a urine which is allowed to stand and always obscure the microscopical field.

After the sediment has been procured the amount as shown by the graduated centrifuge tube should be noted. Its color and appearance should also be observed since different deposits are of varying colors and consistency. On removal of a portion of the sediment by the pipette for examination a low power lens should be used as a high power is of value only in determining the details of structure. The crystals and their special classification, red blood cells, leucocytes and pus are thus brought out. Epithelial cells, their kinds and origin, casts and their structure can be seen, as can also bacteria, including the bacillus tuberculosis, which can be brought out satisfactorily by a proper method of washing and staining; in short, such a sediment will be seen as the pathological condition warrants, all of which is very essential to see and become familiar with in order to make a correct diagnosis.

Stomach and Contents.—Not every patient who complains of stomach trouble requires an analysis of the gastric contents, many cases can be diagnosed by the subjective symptoms alone; yet very often physical and chemical examinations are absolutely required to establish a diagnosis.

The physical examination, palpation, percussion, inspection, etc., can be materially helped by inflating the stomach. This can be done in two ways; if the patient takes the tube well it can be passed and the stomach inflated with air, however this method is not practical with those who have not had the tube passed on previous occasions. The other method is to inflate the stomach with carbon dioxide; administer six grams of tartaric acid in solution, follow it immediately with a solution of eight grams of sodium bicarbonate, the stomach is thus inflated with gas which can be removed when it has served its purpose. This method cannot be safely used in cases of gastric ulcer or gastric carcinoma, nor where there are serious cardiac disturbances. With these exceptions it can be employed with impunity. Whichever method is used the result is the same; the stomach becomes distended and it is very easy to determine its size, shape, and position as well as to outline its borders and to determine the position of the pylorus, which is of special importance in diagnosing malpositions, as gastroptosis.

The analysis of the gastric contents is simple, yet important. Many a general practitioner is deterred from fitting himself and his laboratory for making analyses because of a mistaken idea of the difficulties of the procedure and the quantity of apparatus required. Any physician with a moderate amount of skill, by the expenditure of a few dollars can enable himself to make an analysis that will be sufficiently complete for all practical purposes. The meal usually given as a test is Ewald's, though in some cases a full dinner should be used. In due time, one hour for the Ewald's and 2½ hours for the full dinner, the gastric contents should be removed by the use of the stomach tube. It is well to remember that there are certain contraindications to the passage of the tube, as marked prostration, continued fevers, pregnancy, old age, serious heart and lung diseases, gastric and other hemorrhages.

On the removal of the gastric contents note the time the test had been in the stomach; filter it and note the amount of filtrate and residue, then test the filtrate for acidity by using ordinary litmus paper. If an acid reaction is shown use Congo red to determine whether or not free acid is present. The determination of the presence or absence of this physical property enables the physician to proceed with the examination with more despatch. On finding free acid it should be then determined if it is free hydrochloric; this can best be done by the use of Gunzburg's test which reacts to free HCl alone and in very dilute proportions, being the most sensitive of all the free HCl tests. With this much knowledge of the filtrate the next step is to proceed with the quantitative estimation of the acidity by using Topfer's method. This method depends on the different sensitiveness of color end-reagents to the various constituents of the gastric juice. It determines quantitatively : (1) Total acidity; (2) free HCl; (3) combined HCl, and (4) organic acids and acid salts.

The solutions required are: A one per cent. alcoholic solution of phenolphthalein; a one per cent. solution of sodium alizarin sulphonate, a five per cent. alcoholic solution of dimenthal-amidoazo-benzol, and a decinormal solution of sodium hydrate. Prepare three beakers, in each of these put 10 c.c. of the filtered contents. To beaker Number One add four drops phenolphthalein, to beaker Number Two add four drops alizarin, to the third beaker add four drops amido-benzol. Each is then separately titrated with the decinormal solution sodium hydrate until the end reaction is shown, which in the first beaker will be a change of the colorless contents to a deep red. This reaction occurs when the beaker contents are exactly neutralized, the sodium solution being added until the addition of a drop no longer intensifies the color solution. In the second beaker titrate with the sodium solution until a pure violet color is obtained. The titration in the third beaker should continue until the last trace of red disappears and the contents assumes a lemon yellow color. The number of c.c. of the sodium solution required to neutralize 100 c.c. of the gastric filtrate indicates the amount of acid in the gastric contents and, according to Topfer's method, is expressed as "the acidity." As for instance, seven c.c. of the sodium solution were required to neutralize 10 c.c. of the gastric filtrate it would take 70 c.c. to neutralize 100 of the gastric contents; hence, according to the Topfer method, the acidity would be 70. The number of c.c. of the sodium solution required to neutralize the contents of beaker Number One indicates the total acidity. The number required for beaker Number Two indicates all acids except the combined HCl, hence, if the total acid was 65 and all but the combined was 45, the difference between all acids 65, and all but the combined 45, would be 20, the combined HCl. The number of c.c. of the sodium solution required for beaker Number Three indicates the amount of free HCl. If on the addition of the reagent dimethal to the gastric filtrate in beaker Number Three no red coloring is shown, no free HCl is present. The amount of free HCl plus the combined HCl equals the total HCl. The difference between the total acid and the amount of HCl indicates the amount of organic acids and acid salts. The more important of these are lactic, acetic, and butyric. Lactic acid is of the most importance because of its association with gastric carcinoma and the fermentation of carbohydrates. A convenient test for it is Uffelman's.

After making the quantitative analysis the tests for pepsin and chymosin can be made, though it is not essential to make these tests when the HCl is found normal. Mention might be made as to the determination of the absorptive and motor power of the stomach. These properties are ascertained by the use of salol, to obtain the motor power, and potassium iodide to obtain the absorptive power. The potassium iodide appears in the saliva on its being absorbed from the stomach and can be shown by its action on dried strips of starch paper. The paper moistened by saliva, containing potassium iodide, on the application of fuming nitric acid produces a violet color. Salol remains unchanged and unabsorbed in the stomach, but on its reaching the alkaline intestine it is broken into phenol and salicylic acid and, in normal conditions, the salicylic acid can be found in the urine in from 40 to 70 minutes after ingestion.

Microscopical Examination.—This is as important as the chemical analysis. A portion of the sediment or of the material remaining on the filter paper is spread upon a slide and examined with or without a cover glass. Here may be seen, undigested food particles, vegetable parasites, leucocytes, epithelial cells and gastric fragments together with other morphological elements. The long bacillus, found in carcinoma, is brought out by proper staining; in fact the microscopical examination is a fertile field enabling one at times to clinch a diagnosis which, with physical examination and chemical analysis would at best be doubtful.

The benefits derived from the chemical analysis are many. With it hypoacidity, hyperacidity, hypersecretion, the stage of digestion and the presence or absence of the digestive ferments and enzymes are shown, and when these physical properties are once found can be followed by diagnosis and treatment which with ordinary methods are many times impossible. The passage of the stomach tube of itself may be made a fruitful source for good, as much benefit can be derived by its use in lavage, for many cases of catarrhal gastritis need no other treatment than thorough lavage.

The Blood.—Hematology embraces a broad field, not limited to rare hemal conditions nor restricted in its practical application to the scientist and his laboratory. Many diseases daily come under the care of the general practitioner in which an examination of the blood may be of extreme value in clearing up the diagnosis of an otherwise obscure case. With an exact knowledge of the specific gravity, hemaglobin percentage, the number of white and red blood corpuscles, etc., we are able to diagnose the essential blood affections: chlorosis, pernicious anemia and leukemia—whose treatment follow the diagnosis as the diagnosis follows the blood examination. With a good microscope, a few slides, cover-glasses and some two or three of the simpler stains, the average practitioner can gain an amount of diagnostic knowledge valuable in the extreme. Examination of the fresh blood may, with a little experience, disclose the fact whether the blood is more than normally concentrated or is hydremic. With a one-fifth or one-twelfth oil immersion objective we can study the relative size and shape of the red blood corpuscles and fairly approximate the ratio of the red and white. Here may be found the plasmodium malaria or even other rarer conditions. Blood need not necessarily be examined fresh. A drop of blood from tip of finger or lobe of ear, carefully but quickly spread between two thoroughly cleaned cover slips, gives you a "smear" which dries in a very short time. On return home these may be fixed by any of the methods preferred, stained and examined at leisure.

Very useful knowledge of diseased conditions can be gained by examination of the dried and stained specimen which, therefore, makes it one of the most important features of blood analysis.

The eosin-hematoxylin stain is very useful and this with the Ehrlich's triacid serves very well for most purposes. As one perfects himself in the simpler parts of blood examination, he may avail himself of the aid afforded by other instruments of precision. With the Thoma-Zeiss counting apparatus and a little practice the count of red and white corpuscles can be made in a comparatively short time. Hemaglobin percentage may be estimated by Fleischl's apparatus or by Taliquest's color chart, which has been proven sufficiently accurate for all practical purposes, requires but a moment, and has the further advantage of bedside utility. From the hemaglobin percentage the specific gravity can be obtained to a comparatively accurate degree, by means of Hammerschlag's chart, or more precisely by Hammerschlag's chloroform-benzol method, the principle of which is that chloroform, being heavier than blood, a drop of blood will float upon it, and benzol, being lighter than blood a drop of blood will sink in it. A mixture of chloroform and benzol, in which a drop of blood remains suspended must then be the specific gravity of the blood.

Beside a positive diagnosis in the essential anemias, much confirmatory knowledge can be gained in other diseases which, combined with other physical signs and symptoms, often aid essentially in the clearing up of complicated cases. Typhoid fever, uncomplicated, shows a dearth of white blood corpuscles—a leukopenia—while a leucocytosis in its course will strengthen our clinical suspicions of a complication, be it a meningitis, a pneumonia or a deep-seated, purulent and unrecognizable inflammation. A suspected pneumonia centrally located will be rendered highly probable if a leucocytosis is found together with a diminution of chlorides in the urine. Differential diagnosis in typhoid, pneumonia, meningitis, appendicitis, malaria, and other diseases may be greatly aided by a careful blood examination.

To enumerate further the diseases in which blood examination aids materially in diagnosis, would be to enumerate the whole category, for there is scarcely a diseased condition in which aid, either of a positive or negative character, is not afforded by a careful chemical and microscopical examination of the blood.

When several years ago the results of Widal were made known to the medical profession it was hoped that the long-looked-for positive test for typhoid had been found which was to be a simple, rapid and infallible evidence of the presence or absence of the disease in every case. The non-fulfilment of this promise led many to look upon Widal's reaction with distrust and to regard it as of little value in the diagnosis of the disease. This, however, is not warranted by the results of various competent, painstaking observers, and the fact still remains that, along with other signs, it is capable of rendering valuable service. The results thus far obtained warrant us in attaching great diagnostic importance to the reaction. The absence, at a single test, does not preclude the possibility of the disease, for the reaction may be wanting in the early stages and not appear until late in the disease, or even until convalescence has been well established and, according to various observers, is found to be absent in about five per cent. of all cases. This test is not, as believed by many, to be used only by the experts in bacteriology, though to them belongs the credit of perfecting its method and determining its value on a scientific basis. The country practitioner is not denied its aid, for with even a small laboratory he can perform the test with the same practical satisfaction as is possible in the hospital or laboratory. A pure culture of the typhoid bacillus is a necessity and can be obtained from the nearest large laboratory and this, with sufficient tubes of nutrient agar, will last through an ordinary season. The culture should be kept in an ice-box and, when wanted for use, put into an incubator and kept at the body temperature for from 12 to 24 hours, or until such time as it shows a healthy growth. Do not let the lack of an incubator deter you from making the test, but carry the tube in your trouser or vest pocket, and the body temperature will start it growing. When well growing inoculate with a sterilized platinum loop, a fresh agar tube and allow it to grow the required time in the same incubator. An oese of the fresh culture in a drop of distilled water, suspended in a hanging drop, gives you your control and its examination will exclude preexisting clumping, non-motility and possible contamination. Then a drop of a 1-10 dilution of serum obtained either from a blister, centrifuged blood in a capillary tube or a drop of blood on a cover slip, procures your test dilution, the motion of which, studied in a hanging drop, compared from time to time with your control, shows you whether or not your test is positive, the end reaction being decreased motility and final clumping in from 15 to 30 minutes.

This is regarded as the most constant and reliable sign, if not an absolute test, of typhoid fever, for if properly performed a definite reaction very rarely occurs except in typhoid fever.

In the examination of the sputum the microscopical findings are the most important, though much of value may be learned from the observation of its general characteristics, amount, consistence, color, odor, and configuration, as well as its microscopical constituents, Curschmann's spirals, echinococcus membranes, concretions and, at times, foreign bodies. These findings often point to certain diseases serving to guide one in his further investigation by microscopical and chemical means.

In the examination of the unstained sputum by the microscope we may find leucocytes, usually polynuclear in character, in almost every case, often in great numbers, being greatest in empyema and putrid bronchitis. Eosinophilic leucocytes are often found in asthmatic sputum though not pathognomonic of the disease. Red blood corpuscles may be found in nearly all pulmonary disorders varying of course in number and form. Epithelial cells are of still less importance, rarely throwing any light on diseased conditions of the pulmonic organs. Elastic tissue, the presence of which always indicates a destructive process of abscess, bronchiectasis or tuberculosis, is often one of the earliest findings in pulmonary tuberculosis and was, before the discovery by Koch of the bacillus tuberculosis, considered with other physical and clinical signs ample proof of an existing tubercular lesion. Gangrene of the lung is characterized by the absence of elastic tissue, owing to its destruction by a ferment present in gangrenous conditions of this organ.

Parasites, both animal and vegetable, may be found in the sputum, the tenia echinococcus being the most important of the former class. Of the vegetable parasites the most important is the bacillus tuberculosis and its presence in the sputum is pathognomonic though the failure to discover it is only a negative and not a positive sign of the absence of the disease. There are different methods of staining this bacillus, but the one most satisfactory and most frequently employed is the Ziehl-Neelsen carbolic-fuchsin. The diplococcus pneumonia can also be demonstrated in sputum from those sick with pneumonia and its presence, together with other signs, renders a diagnosis of acute croupous pneumonia highly probable. Here we may also find the bacillus influenza, streptococci and other rarer and less characteristic parasites as well as some of the non-pathogenic micro-organisms.

Besides these microorganisms various crystals may be found. The chemistry of the sputum is of minor importance and can be found discussed in any of the various text books.

In cases where we suspect tuberculosis in organs other than the lungs, or where the patient has not reached that stage in which the sputum contains the bacillus, we have at our command the tuberculin test. This is the Koch tuberculin which several years ago was hailed by the laity as a sure cure for consumption; it was however little used and was finally condemned by the profession. As a diagnostic aid it is of great value, furnishing not only a means of positive diagnosis but of differential diagnosis as well. In tuberculosis of the genito-urinary tract where a doubt exists as to the possibility of a tuberculer process, a calculus or a new growth, it is of the utmost value. The test is made by observing for several days the temperature curve. An injection of from five to eight drops of a 1-100 solution of tuberculin with a second observation of the temperature for three days is made. In event of no reaction a second injection of from five to eight drops of a 1-10 solution is used. If no reaction, that is a sudden marked rise of temperature, occurs, we are safe in assuming that a process tubercular in character does not exist. This test, of course, is not to be made indiscriminately, but when other methods have failed to make a positive diagnosis it may be used with the greatest degree of satisfaction.

We have thus attempted to show the advantage and importance of laboratory methods in the diagnosis of diseased conditions. The time and apparatus are not at all to be considered, since the good results obtained are out of all proportion to the cost, and we firmly believe that this is the way to practise medicine scientifically and conscientiously, the way from the darkness of empiricism into the light and truth of modern medicine.

MEDICAL PROGRESS.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Blood Examinations in Severe Burns.—Changes in the blood in these cases were first referred to in 1862 by Bareduc, who believed that the thromboses so generally found in such cases were due to the thickening of the blood, with slowing of the current, in consequence of the withdrawal from the blood of the serum in the blisters. Later writers have found degenerative changes in the red cells, some advancing also the theory that numerous toxins existed in the blood after burns. E. A. Locke (Bost. Med. and Surg. Jour., Oct. 30, 1902) has recently studied the blood from a clinical standpoint. Ten cases were examined and in each instance the blood was taken from some part of the body not primarily affected by the burn. He found that the blood obtained by puncture flowed very sluggishly, was of a peculiar dark, purplish color, and spread with difficulty. No careful study was made of changes in hemoglobin percentage, but in the three cases examined the readings were from 95 to 100 per cent. An immediate increase in the number of erythrocytes was noted in severe but not fatal cases, of from 1,000,000 to 2,000,000 per c.mm. in a few hours; in fatal cases, of from 2,000,000 to 4,000,000 per c.mm. A rapidly increasing leucocytosis was constant and to a certain extent proportional to the severity of the condition: In cases ending in recovery often of 30,000 to 40,000 per c. mm.; in fatal cases usually above 50,000. Morphological changes in the erythrocytes are slight. The percentage of neutrophiles is somewhat above the normal, but not so much so as in the ordinary inflammatory leucocytosis. In very severe burns a considerable destruction of the leucocytes takes place and myelocytes may be present in small numbers. The blood plates were as a rule markedly increased and showed a tendency to collect in large masses.

Variations in the Alkalinity of the Blood.—The normal alkalinity of the blood is not due to alkaline bicarbonates but to monoacid phosphates and alkaline earths. It should be borne in mind that while alkaline to litmus or other indicators, the blood is, from a chemical standpoint, really acid in virtue of the presence of acid salts. This paradox is due to the property of unstable acid salts which are readily made to pass into neutral forms by the addition of true alkalies (caustic soda or potash). A practical method of measuring the acidity of the blood is not known, whereas its alkalinity has been studied in many experiments performed under conditions sufficiently alike to give results of true biologic interest, though open to criticism from the standpoint of chemistry. The technic for the quantitative determination of the alkalinity of the blood is described by Marcel Labbé (La Presse Med., Oct. 18, 1902). In a given individual the degree of alkalinity oscillates within narrow limits. Relatively high at birth, it falls to a minimum between one and three years of age, but rises slowly, reaching at seventeen years the degree which is maintained during adult life; in old age a second decline occurs. Other physiological variations are due to digestion and to violent exercise. Fresh blood gradually decreases in alkalinity to the moment of coagulation. Therapeutic alterations would be important in treating conditions such as diabetic coma, which are attributed to acid intoxication. Unfortunately we only know that slight and transient augmentation of alkalinity results from the absorption of alkaline waters. Lassar declares that the alkalinity of the blood is diminished after absorption of dilute acids; others have been unable to confirm this. Hoffmann has shown that in carnivora alkalinity persists unaltered regardless of the character of the food. Fodor showed that *in vitro* the blood of animals alkalinized with Na_2CO_3 is more powerfully bactericidal than untreated blood. Many writers attribute to alkalinity an important rôle in resistance to infection. Zagari states that alcoholism and fatigue lessen at once the alkalinity of the blood and vital resistance to infection. Many writers have noted the diminution of alkalinity in human subjects during fevers, as in pneumonia, erysipelas, acute pleurisy, advanced typhoid, advanced stages of eruptive fevers. In the two latter instances there occurs early in the course of the disease a transient augmentation of hemoalkalinity. Discordant results have been obtained in acute articular rheumatism; the use of sodium salycilate is here a disturbing factor. There is much difference of opinion concerning the state of the blood in such chronic affections as malaria, tuberculosis, gout, cancer. In diabetes, and especially in diabetic coma, there is a marked falling off in alkalinity; hence the widespread use of massive doses of alkalies in the treatment of this condition. Labbé believes that the ascertainment of the degree of hemoalkalinity has more than theoretical value, since it can be made the basis of prognosis in intoxications. In actual practice the method can rarely be applied, although the studies already made have furnished the basis of a novel therapeutic method.

Hemolysis in Heterogeneous Sera.—The hemolysis observed in heterogeneous sera is characterized by the same morphological phenomena which are observed when hemolysis occurs in anisotonic salt solutions. The erythrocyte loses its hemoglobin, leaving in place of the original cell the well-known "shadow" form. When heterogenous sera are used, writes P. Baumgarten (Berl. klin. Woch., Oct. 27, 1902), the phenomenon just referred to is preceeded by an agglutination of the red blood cells; such a preliminary agglutination does not occur when anisotonic salt solution is the cause of the hemolysis. The changes in the form and volume of erythrocytes which occur in heterogeneous sera and in anisotonic salt solutions are minutely described by Baumgarten, who regards the heterogeneous serum as an anisotonic solution. If such a serum be heated to 55° C., it ceases to act as an anisotonic solution and then produces those morphological changes which ordinarily occur in isotonic solutions. This alteration in the mode of activity of the serum Baumgarten attributes to molecular changes caused by heat; for example, free salt molecules may be combined, or various substances may be chemically reduced by the action of heat, and the osmatic tension of the solution may thus be altered. It is noticeable, however, that physical investigations, such as study of the freezing-point of sera, fail to support this hypothesis. The efficient cause of hemolysis in heterogeneous sera is the action of specific substances or antibodies, according to the theory of Paul Ehrlich. But Ehrlich regards the resulting hemolysis as a fermentative process analogous to digestion, while Baumgarten conceives it to be a simple separation of the hemoglobin, already in a state of solution within the cell, followed by its diffusion in the surrounding medium. He maintains that a true analogy is afforded by osmotic changes, and not by processes of digestion. This difference of opinion concerning the mode of operation of the specific hemolytic antibodies found in heterogenous sera is not without importance. Baumgarten has repeatedly declared that proof is lacking that the destruction of pathogenic microorganisms in the bodies of immune human beings or animals is in any sense a fermentative or digestive process. Hemolysis in hemolytic serum is the clearest and simplest example of an immunity reaction, and this process presents nothing to suggest "digestion." He further disagrees with Ehrlich concerning the significance of agglutination in hemolysis, the latter maintaining that agglutination bears no relation to hemolysis, while the former declares that he has never seen a hemolytic serum which did not also possess agglutinating potency, nor an agglutinating serum incapable of producing hemolytic phenomena. Baumgarten thus seeks to rehabilitate the theory of the identity of the agglutinines and the specific antibodies which Gruber exploited some time ago in his studies of bacteriolysis.

Trypanasomatous Diseases.—Experimental research in Germany, France and England has brought into considerable prominence the pathological rôle of the Trypanasomata. R. Bosquier (Jour. Sci. Méd. de Lille, Oct. 25, 1902) urges the importance of a more general knowledge of these parasites, in view of the fact that they have recently been found in the human blood, though their habitat has hitherto been supposed to be the blood of animals alone. The author enumerates the various affections of animals which are attributed to Trypanasomata and calls attention to the long-recognized condition known as dourine or equine syphilis, a disease acquired in coitus and in which Trypanasomata are present. It has been asserted by some authors that the origin of human syphilis is identical with that of the horse; and the facts that Stassano has recently found infusoria provided with flagella, in the blood-serum withdrawn through puncture of a satellite ganglion of human syphilitic chancre, and that the Trypanasomata found in equine syphilis belong to the Infusoria flagellata seem to point to some analogy between the two.

Primary Sarcoma of the Lung.—The occurrence of primary sarcoma of the lung is indisputable; and the diagnosis may be made in vitam from consideration of characteristic symptoms as well as by exclusion of other pulmonary affections, especially tuberculosis, with the objective symptoms of which, such neoplasia have much in common, so says G. Silva (Gazz. Osped., Oct. 10, 1902). The doctor reports two cases the most striking features of which were cough, with little or no expectoration, the latter being free from tubercle bacilli, and severe lancinating pain in the chest which radiated downward to the epigastrium and back to the shoulder. The diagnosis of sarcoma was made chiefly from the character of the pain, which is said to be more intense and diffuse than that occurring even in the severest forms of tuberculosis, and characteristic hard resistance upon percussion. The presence of neoplastic elements in the sputum is not given the importance ascribed by other observers to this symptom, as they were absent in both the author's cases; yet necropsy showed what he believes to be undoubted sarcoma of the lung, which he describes as an exceedingly hard dark-greenish tumor with neoplastic infiltration of every part of the lung including the pleura, in one case; and in the other, a round, hard, yellowish tumor occupying the center of the lung. In the first case examination of the spleen and liver were negative, while the kidneys showed chronic parenchymatous nephritis. In the second, small neoplastic nodules were disseminated throughout the liver. Histological examination is lacking in both cases.

Blood of Lead Workers.—The blood of a number of cases suffering from lead poisoning was examined by L. N. Boston (Proc. of Phil. Med. Soc., Oct., 1902). The majority of cases gave a leucocyte count varying between 10,500 and 25,000. The number of red cells and the percentage of hemaglobin bore no constant relation to the number of leucocytes present. In average cases the erythrocytes numbered 3,500,000, though in severe cases the anemia may be more marked. In a few instances, however, the red cells are found to be above normal. The hemaglobin was found to fluctuate between 32 and 85 per cent. and was not in relative proportion to the number of red cells. Smears made from different cases and fixed by heat were alike in displaying a rather high grade of poikilocytosis; the erythrocytes staining feebly in many instances; many appearing as mere shadows while in others certain cells stained irregularly, overstained cells were uncommon. Macrocytes and microcytes were numerous and nucleated red cells an occasional finding; of these normoblasts were the more frequent.

The Importance of Staining for Elastic Fibers.—The various excellent methods for staining for elastic fiber in tissues have hitherto been looked upon as possessing more scientific than practical interest. B. Fischer (Münch. med. Woch., Oct. 28, 1902) however would like to introduce Weigert's method in the routine work of all laboratories, since often details of structure will be revealed which allow of an accurate diagnosis. Two instances are mentioned. The first referred to a tumor of the neck which appeared innocent with the ordinary stains, yet with the elastic tissue stains gave undoubted proof of malignancy, since the invasion of a vessel by the tumor-cells could be very distinctly seen. In the second case the presence of vessels could be demonstrated in an apparently structureless shred from the urine and thus a serious bladder trouble could be diagnosed.

Agglutination of Streptococci.—During immunization trials with what was believed to be the streptococcus of articular rheumatism, F. MEYER was able to demonstrate that the bacteria employed to produce immunity were agglutinated by the serum of the animal treated. This led to further experiments (Deut. med. Woch., Oct. 16, 1902) with a view of determining whether a definite order of streptococci is agglutinated by any "streptococcus serum," or whether a particular serum causes agglutination of its own variety of streptococcus only. The summary of the results of his labors show: (1) That streptococci are agglutinated by their respective immunizing sera in the same manner observed in other bacteria; (2) that by this phenomenon it appears that absolute differences can be detected in streptococci between those of the anginæ and those of pyogenic infections; (3) that bactericidal sera which are to be employed in human therapy should not be prepared as has heretofore been the case from bacteria which were rendered ,virulent by passage through animals.

Number of Bacteria in Feces.—Since the usual methods employed to determine the number of bacteria are very imperfect, S. STRASSBURGER (Zeitsch. f. klin. Med., Vol. 46, Nos. 5 and 6) has devised a new one, which depends upon the fact, that, by mixing the feces with water and centrifuging, the bacteria will remain suspended in the fluid while all coarse particles settle at the bottom of the vessel. If alcohol is then added to the liquid portion, and this again centrifuged, the bacteria can be obtained as sediment and weighed. It was found that under normal conditions about one-third of the dried feces consists of bacteria and that the daily amount of excreted bacteria, when dried, amounts in the average to eight grams; where dyspeptic disturbances were present, the figures obtained were 14 to 20 grams, and in chronic constipation 2.6 to 5.5 grams. In chronic constipation the dry residue is also abnormally small and the diminished amount of culture medium may account for the less active growth of bacteria, especially since the ingestion of colon bacilli does not increase the bacteria in the stools. A cause may be found for the constipation in the small amount of decomposition products, which normally stimulate peristalsis. In one case of biliary obstruction, comparatively few bacteria were found. Approximately the same figures were obtained with nurslings as with adults. The daily excretion of bacteria reaches the enormous figure 128 billion. In fasting or with plain diet about half of the nitrogen of the feces resides in the bacteria. The inefficiency of intestinal antiseptics or of the disinfecting action of purges is well explained by the above figures.

Bacteriology of Acute Articular Rheumatism.—In more than 25 cases of acute polyarthritis, a special form of bacteria was found by F. MEYER (Zeitsch. f. klin. Med., Vol. 46, Nos. 5 and 6). They appear as small diplococci of lanceolate shape and stain well with the usual aniline dyes, but less intensely with Gram's stain than streptococci. An excellent culture-medium is to be found in bouillon, to which human blood, serum or ascitic fluid has been added. The growth is very abundant, yet the cultures generally die after four to five days without having lost much of their virulence. Their grouping on artificial media resembles that of streptococci. The usual methods employed for increasing the virulence of the germs all failed. By intravenous injection, inflammatory swelling of the joints was caused in animals and the exudate was rich in fibrin and mononuclear cells. A special staining process is necessary to demonstrate the presence of bacteria. In several animals excrescences were found on the heart-valves, which contained bacteria, but did not show any necrosis of tissues. Fatal septic infections, such as follow the ordinary streptococci, were never seen. A remarkable affinity of the germs for the synovial membranes of joints and the heart-valves was found to be present, since cultures from the blood were usually sterile. Several animals also showed choreiform movements, yet no pathological changes could be found in the brain on autopsy. The great similarity of this artificially produced disease of animals with rheumatism of man is clear. The conclusions are that in the angina or endocarditis as well as in the synovial and pleuritic fluid of rheumatism a special germ is found which doubtlessly stands in close relation to the etiology of rheumatism. This disease must thus be looked upon as a special form of streptococcus infection.

Experiments Concerning Antistreptococcus Serum.—An antistreptococcus serum is presented by H. ARONSON (Berl. klin. Woch., Oct. 27, 1902), which this investigator considers worthy of extensive clinical application and trial. Too much stress has hitherto been laid upon the cultural differences presented by streptococci derived from various sources. As a matter of fact all these groups, according to Aronson, are very closely related. The problem of the bacteriologist is to produce a protective serum which shall contain the largest possible accumulation of antibodies; Aronson has apparently succeeded in producing a serum which has successfully withstood severe tests in animals, and he is still engaged in the work of perfecting his technic with a view to the production of sera of even higher specific value. It will be remembered that this bacteriologist in 1896 published an account of an antistreptococcus serum, which after two years of clinical trial was abandoned as useless. . Marmorek's antistreptococcus serum and that of Tavel proved not much more satisfactory. Two years ago Aronson resumed his experiments, beginning with the utilization of cultures of streptococcus derived from cases of scarlatinal angina. Later streptococci were obtained from the bone-marrow of patients dead of scarlet fever. In all, 17 distinct cultures were at length utilized, recovered from cases of acute articular rheumatism, erysipelas, follicular angina, diphtheritic angina and general sepsis. Slight cultural differences were at first noticed; all such differences disappeared completely after passage of the germs through animal hosts. The initial virulence of the various cultures was not very great; it was found to be heightened by passing streptococci through animals to which simultaneously were administered small doses of diphtheria toxin; the streptococci recovered from such subjects were invariably fatal to animals. For the production and support of a virulent streptococcus Aronson utilized most successfully a bouillon composed of juice of horse-meat several days old, NaCl 0.5 per cent., peptone 0.5 per cent., glucose 0.1 per cent. The alkalinity must be carefully fixed. Aronson prepared a culture, of which .000,000,01 c.cm. was fatal to white mice in 36 to 48 hours. But these powerful cultures yielded relatively small quantities of toxins in solution, while from the bodies of the cocci themselves virulent toxins were readily recovered after sterilization by heat and by chloroform. The immunizing experiments carried out by Aronson were practised chiefly on goats and horses; the latter yielded the most potent serum for protection—that is, the serum containing the largest quantity of antibodies. Without describing in further detail Aronson's strikingly successful results in the immunization of animals, it is worth while to remark that in the pediatrics section of the Carlsbad Congress in September last, Baginsky, whose constant finding of streptococci in scarlatinal angina induced Aronson to renew his experiments, reported that the clinical employment of Aronson's serum in severe cases of scarlatina gave no satisfaction. Small doses were ineffectual while larger doses (20 c.cm.) caused complications and were regarded as dangerous.

Presence of Tetanus in Commercial Gelatin.—Gelatin injections are now used rather extensively, in Europe especially, as a means of treatment for aneurism and as a direct and prophylactic hemostatic. According to the National Dispensatory gelatin is made by boiling in water for a long time bone cartilage, animal skin, tendons and ligaments. In the process of manufacture the animal tissues are placed on a sieve or perforated diaphragm some distance from the bottom of the boiler; when the solution has become sufficiently saturated it is drawn off and allowed to cool, and the jelly is cut into sheets and placed on wire nettings to dry. While so exposed to the air the gelatin could easily become infected with tetanus spores, as it is manufactured usually in conjunction with the other procedures that go on in a meat-packing house. Kuhn reported a case of tetanus following the injection of gelatin, and similar infections have been recorded by Gerulanos, Georgi and Lorenzo. Prompted by these reports an investigation was begun in Washington in the laboratory of the U. S. Marine Hospital Service (Hyg. Lab. Bull., No. 9, Sept., 1902). Seven samples of commercial gelatin were examined; one of these showed tetanus spores. Two samples showed an oval end-spore rod, whose identity was not proved, but in stained specimens it would be hard to distinguish from tetanus, if indeed it is not tetanus of diminished virulence. In tetanus investigations it is important to use freshly made bouillon, as the organism is apt not to germinate in bouillon over 10 days old. The thermal death-point of the organism isolated was found to be between 20 and 30 seconds at 100° C. It is important, therefore, that gelatin to be used for injections should be boiled at least 10 minutes on account of the variability of the thermal death-point in different species of tetanus. Whether this amount of heating impairs in any way the hemostatic power of gelatin has not been proved, but in case it does it is believed that the danger from tetanus more than overbalances its therapeutic value. It is suggested that when, as in hospitals, there is likelihood of gelatin injections being used for hemostatic purposes, the gelatin solution be sterilized by the fractional method on three successive days and kept ready for use in sterile containers.

Influence of the Micrococcus Tetragonus upon the Tuberculous Process in the Lungs.—This subject has been studied experimentally and histologically by A. Michelazzi (Rif. Med., Oct. 16, 17, 18 and 20, 1902) who sums up as follows: (1) The Micrococcus tetragonus has an inhibitory influence upon the development of the bacillus tuberculosis; (2) previous inoculation of the Micrococcus tetragonus in susceptible animals, not only inhibits the development of the tuberculous process in the lung, but prevents propagation in other organs; (3) if tetragonus infection be preceded by tuberculous infection the inhibitory influence of the former is nullified, and the already multiplied and virulent Bacilli tuberculosis not only induce specific lesions in the lung, but cause their development in remote organs; (4) lesions produced by the Micrococcus tetragonus in the lungs of guinea-pigs are identical with the type of tuberculous lesions in the human lung (cavities, tuberculous pneumonitis, etc.); and many of such lesions in man may be attributed to the Micrococcus tetragonus.

Bactericidal Effect of Blood.—On reviewing the experimental data set forth by A. E. Wright and T. N. Windsor (Jour. of Hyg., Oct. 1, 1902) it seems clear that human serum has a powerful bactericidal effect upon the typhoid bacillus and the cholera vibrio, while it is without bactericidal action upon the Staphylococcus pyogenes, B. pectis, Micrococcus melitensis, Streptococcus pyogenes and B. diphtheriæ. Sterilized cultures of those species of micro-organisms which are killed by the serum, appear, in contradistinction to those which are not affected, to possess the power of directly abstracting a bactericidal element from the blood. The first of these statements has an obvious bearing on the question of the mechanism by which bacteria are destroyed in the organism and on the question as to whether the bactericidal action is acquired only after withdrawal from the organism and after the disintegration of leucocytes, for it would seem difficult to assume that the bactericidal power is only a particular manifestation of a digestive power originally resident in the leucocyte, when we realize that the serum exerts a bactericidal action only on particular species of micro-organisms, while the leucocyte exerts a digestive action on bacteria generally. The second statement points to the bactericidal effects being the result of definite chemical combinations occurring between the bactericidal substances in the blood and the affected bacteria. In conclusion, reference is made to a possible relation between the danger, or absence of danger, associated with the hypodermic inoculation of different species of bacteria. While inoculation with living cultures of cholera and typhoid are associated with only slight risk, the danger is extreme in even minimal quantities of plague bacilli or the Micrococcus melitensis. It would seem difficult to conceive of inoculations with so small quantities of culture, being so effectual in the case of micro-organisms subject to the bactericidal action of blood and lymph.

NEUROLOGY.

The Vulvo-anal Reflex.—This new reflex is described by G. Rossolino (Rev. Neurologique, Oct. 15, 1902) as the simultaneous contraction of the sphincter muscles of the vulva and anus, following a slight mechanical irritation of the latter. The simultaneous occlusion is due to the anatomical unity of the muscles of the two sphincters in question. The path of the reflex arc is the same as that of the anal reflex in man and the spinal center is found in the neighborhood of the fourth and fifth sacral roots in the medullary cone. The individual and pathological anomalies of the vulvo-anal reflex depend on the same conditions as those of the anal reflex. In general it is found in normal women, is often absent in the old, and in cases of severe hemorrhoids and prolapse of the vagina. It is augmented in individuals having general exaggerated reflex excitability and above all in most hysteric women. It is immoderately increased in cases of vaginismus. Its absence perhaps can be a symptom of an organic affection of the medullary cone and of the caudus equinus. It can serve as a sign of the state of the sexual functions, and can aid in the elucidation of certain diseases of the female genital organs.

Insanity During Pregnancy.—Puerperal mania after confinement is occasionally seen, that occurring during pregnancy is comparatively rare. A case is reported by F. F. Young (Jour. Am. Med. Assoc., Nov. 15, 1902) in which dementia was recognized during the second month and became progressively worse with increasing gestation. During the later months she had to be under constant care, being in a stupor, refusing food, and becoming emaciated. Labor came on at term—a normal child—had to be delivered by forceps. The patient then made an uneventful and rapid recovery. Urine was always normal and nothing in the previous history was found to bear on her condition.

A Curious Case of Aphasia.—An apparently striking illustration of the theory that the visual and auditory impressions of various languages are grouped within a common cortical center, and that partial destruction of that center causes aphasia for the language corresponding to the special group injured, is seen in the report of a case of cerebral hemorrhage by J. DE VELASCO (Rev. Méd. Cubana, Oct. 1, 1902). The patient developed right hemiplegia, paralysis of the left side of the face and aphasia; a strange feature of the latter affection being the patient's inability to converse in his native language (Spanish) while English, which had been acquired more recently, was spoken and understood quite readily. Some visual aphasia was present also; the patient recognizing objects by the purpose for which they were commonly used, rather than by name; for example, he would pronounce the word water when shown a glass.

Anomalies of the Reflexes.—The blow on the reflex arc for the production of the knee-jerk, produced in some of the cases of ST. SZUMAN (Arch. f. Psychiat., Vol. 36, No. 2), not only muscle and bone phenomena, but also disagreeable sensations (tickling and unpleasant sensations that cannot be described) and emotions of astonishment, anxiety and fright. The author did not observe any causative connection between the physical stimulus and any psychical trauma, through association and memory. The possibility, however, of any such connection in cases of hysteria cannot be excluded. Very little has been published on the subject of the relations between the reflexes and the sensations.

The Surgical Events of Epilepsy.—An exceptionally large number of hospital cases afforded H. FISCHER (Arch. f. Psychiat., Vol. 36, No. 2) the opportunity of studying the nature and statistics of the surgical complications of genuine epilepsy. He found that the more severe and numerous the attacks, the more dangerous and frequent are the complications. They are worse in cases without aura, in patients who, suddenly becoming dim-sighted and oblivious to their surroundings, suddenly fall to the earth and become a prey to all dangers. Children are more liable to injuries than adults. Of all the cases observed 37.3 per cent. were free from all injuries with the exception of wounds of the tongue. Although the number of severe injuries in bad attacks is large, the number of serious accidents is less than one would expect. It seems as if during the act of falling, the rigid muscles serve as a protective armor for the bones and joints. The thick clothing worn by epileptics serves also as a good protection. The injuries are of all kinds: subcutaneous wounds of the blood-vessels, ruptures of muscles, nerve lesions including the post-paroxysmal isolated paralyses of epileptics; open wounds of the soft parts, buccal wounds the result of bites, etc. Burns are of frequent occurrence. Old epileptics are always cold and remain near the stove, while workingmen subject to epileptic attacks cannot help being near the forge or furnace. Of common occurrence are contusions of bones and fractures (7.4 per cent. of all epileptics received fractures). The author believes that in young and old epileptics there is an increased and persistent fragility of the bones, resulting from local or general trophic disturbances caused by epilepsy or an antecedent nervous disease; this increased fragility predisposes to repeated fractures of the bones of the extremities. Contusions and dislocations of the joints are frequently seen. Suffocation is such a frequent result in epileptic attacks that the author devotes a great deal of space to its consideration. Tracheotomy as a cure for epilepsy was advocated by Marshall Hall who advanced the hypothesis that the tonic contractions of the muscles of the throat (trachelismus) retards the return of the venous blood from the brain and produces the phenomena of apoplectiform coma; the tonic contractions of the laryngeal muscles (laryngismus) produce asphyxia and the entire picture of a chronic convulsion. The theory of Hall has been shattered by the facts that loss of consciousness may occur before trachelismus, that clonic convulsions may appear before laryngismus, that tracheotomized individuals can have epileptic attacks and that consciousness returns frequently before the disappearance of cyanosis. A far different matter is the question of tracheotomy as a symptomatic procedure in epilepsy, for there is no doubt that a large proportion of deaths result from asphyxia during the epileptic attack. Suffocation causes 12.64 per cent. of all the fatal cases of epilepsy. The immediate causes of asphyxia during the epileptic seizure are the following: 1. Mechanical locking of the mouth and nose; (*a*) Nocturnal attacks, the patient sleeping in the prone position, his face pressed into the soft pillow; (*b*) cases in which the patient falls prone with his face pressed into the soft earth, sand, etc., and in which aspiration of earth occludes the respiratory passages; (*c*) clogging of the nose with blood—coagula produced by epistaxis, while the swollen tongue is tightly held between the clenched teeth; (*d*) the patient falling supine, his tongue, swollen and paralyzed as the result of coma, falls back and occludes the trachea as in chloroform narcosis. 2. Aspiration of foreign bodies into the trachea; (*a*) Food; epileptics swallow rapidly large morsels of food. Attacks during meals are dangerous; (*b*) aspiration of vomited materials; many epileptics vomit during the attacks; (*c*) foreign bodies of all kinds and blood-coagula from the nose and mouth. 3. Cessation of respiration as a sequence of the tonic contractions of the respiratory muscles including those of the larynx. These patients present a frightful clinical picture. The injected staring eyes bulge out of the bluish-red dusky face, the veins in the neck are greatly swollen, the blue, thick tongue lies between the locked teeth, the extremities are cold, breathing is absent, but a weak pulse still gives evidence of life. Everything urges the operation of tracheotomy, yet there are considerations weighing against it. In the first place, in the majority of cases this apnoic condition spontaneously disappears. It is impossible to tell at first glance which of these two cases it is going to be. Moreover, artificial respiration succeeds more frequently in restoring the normal activity of the respiratory center. Then there are cases of asphyxia so sudden that there is no time to prepare for the operation. The difficulties of the operation are great. All the veins of the neck are enormously distended, many ligatures of blood-vessels are required, great haste is needed, and only the experienced operator can succeed. What makes the operation more doubtful, however, is that while the effect of the successful operation is prompt and surprising, and while the attacks are absent for a longer or a shorter time, they surely return with all the severe manifestations of asphyxia. There are nevertheless cases of hystero-epilepsy accompanied with great danger of asphyxia (extreme dyspnea, tightening sensation in the throat marked neuralgic manifestations in the neck, dysphagia, aphonia, trismus and gradual loss of consciousness without convulsions). These cases have often resulted in asphyxia. In some cases there is alternation of hysteria and epilepsy; in others epilepsy is the primary disease. When asphyxia occurs, tracheotomy is indicated and its results are favorable, for the disease is curable and the operation is simple and of certain result.

Vasomotor Ataxia.—The phenomena of vasomotor ataxia depend upon irregular, and sometimes widely-distributed contractions and dilatations of the capillaries and the smaller arteries and veins and may be divided, according to S. S. Cohen (Am. Med., Nov. 8, 1902) into three classes: (1) Those dependent upon excessive relaxation of the vessels, often with concomitant impairment of cardiac inhibition; (2) those dependent upon excessive constriction of the vessels, usually with disturbance of cardiac inhibition also, but sometimes without definite cardiac phenomena clinically demonstrable; (3) those in which the phenomena of the two opposite groups are commingled. The third group is the more common. Graves' disease presents an extreme type of the phenomena of excessive vascular dilation with paresis of cardiac inhibition, while Raynaud's disease demonstrates vascular constriction. In both the determining cause and toxicopathological mechanism are unknown. Between these two extremes are many varieties, differing much in severity and locality of symptoms—simple urticaria, angioneurotic edema, migraine of the spastic and of the paretic type, anomalous eruptions of various kinds, drug idiosyncrasies, hay-fever, asthma, intermittent albuminuria, polguria, tendencies to hemorrhage from various organs, to petechial and purpuric spots, and to small mucous or cutaneous varices and hematomas, minute cutaneous angiomas, paroxysmal tachycardia, and other more or less closely related phenomena. Among the different stimuli prominent in setting up the ataxia are temperature, weather, endogenous and ectogenous noxæ, and emotions. The symptoms may vary much in the same person at different times and they may be manifested during the course of acute or chronic diseases, confusing the diagnosis. Hysteria, neurasthenia and epilepsy bear close relation to the condition. The symptom of the menopause are essentially vasomotor ataxic in character, but are merely a transient phase. Treatment should be largely dietetic and hygienic, with such medication and such measures of physiological therapy as the individual case indicates.

Serum Treatment of Acute and Chronic Articular Rheumatism.—It is part of the theory of D. Menzer (Zeitsch. f. klin. Med., Vol. 47, Nos. 1 and 2) that the ring of lymphatic tissue placed at the back of pharynx acts as a protective organ against infection from without. In acute rheumatism this barrier is overcome, so that the bacteria of the nasopharynx can enter the blood and cause metastatic disease in other parts of the body. There is probably not a special affinity of these parts for the bacteria, but their anatomical structure predisposes them to infection. The germs at fault are in the majority of cases streptococci. To determine if serotherapy is of value in rheumatism, the author isolated streptococci from the tonsils of acute cases, and, by injecting into animals, obtained an antistreptococcus serum. This serum, in contrast to normal and Marmorek's serum is able to set up a reaction in the diseased joints of chronic cases which lead to improvement and sometimes even cure. The healthy joints never show this reaction and the effect is probably a bactericidal and not an antitoxic one. Good results were also seen in acute rheumatism where the joints were generally freely movable and painless after three to four days. The artificial intervals caused by the salicylates, during which there is neither temperature or pain, do not occur. Recurrences were not seen if the patient was kept in bed until pulse and temperature had been normal for at least eight days and the endocarditis seems to be influenced favorably. The number of acute cases observed was not sufficient to definitely estimate the value of the serum since they sometimes run a mild course and the patients were not observed later than six weeks after their discharge. The conditions are, however, different in the chronic form where an undoubted good effect was seen. It seems that here the organism could not react sufficiently to destroy all the germs and that it requires an artificial reaction to remove them from the joints. In order to show that the streptococci of rheumatism are not specific, the author injected his serum also into patients afflicted with other forms of streptococcus infection and obtained a reaction in all. The injections are generally painless and swelling at the site with enlargement of the lymph nodes is only exceptional. Before the diseased joint reacts there may be a sensation of chill and fever. Eruptions also are common as a result of serum treatment, but mostly when the disease is in the decline. Constitutional disturbances are only slight. The amount of serum injected was five to ten cubic centimeters daily, and 50 to 75 generally suffice. The serum should be used with care in cases with hyperpyrexia and pleuritic effusion.

Digestibility of Milk Constituents.—The experiments of F. W. Tunnicliffe (Jour. of Hyg., Oct. 1, 1902) confirm those of previous writers, showing that there is an essential difference between human and cow's casein, and especially that this difference affects the nucleoproteid moiety of the casein molecule, or that part of it which is digested by the pancreatic in distinction to that part digested by the gastric juice. From the point of view of experimental dietetics, the results show the importance of submitting the residue of gastric digestion to the artificial pancreatic juice. In so far as concerns the simple gastric or simple pancreatic digestion, the digestibility of the proteid constituents of certain milk foods and indeed, simple cow's milk itself closely approximates to or even exceeds that of human serum. When, however, we regard the total digestibility after peptic or pancreatic digestion we see that the substitutes for human milk fall considerably short of human milk itself. Certain milk-foods dietetically possess a considerable advantage over simple, unmanipulated cow's milk. From the point of view of public health, the above results accentuate the nutritive advantage to the infant of mother's milk as opposed to any substitute for the same, in other words, of breast-feeding as opposed to bottle-feeding.

An Endemic of Paratyphoid.—The following symptoms were found to prevail during an endemic of paratyphoid fever, observed by F. De Feyfer and H. Kayser (Münch. med. Woch., Oct. 14 and 21, 1902) in a Dutch village: (1) The disease begins with a prodromal stage lasting one to four days and characterized by an irregular temperature not exceeding 38° C., anorexia and pains in the head, back and limbs. (2) The course is mild, no matter how severe the initial symptoms. Convalescence is short and the patients do not suffer much from after-effects. (3) The infectious character of the disease is undoubted since all members of a family who came into contact with a patient, became ill. (4) The temperature curve is typical and in the mild as well as the severe cases a remittent and intermittent stage is present. During the remittent stage there are sometimes morning and evening exacerbations. Sometimes defervescence is by crisis, one case of typhoid with paratyphoid ran an afebrile course. (5) The pulse rate corresponds with the temperature. The pulse is regular, soft and occasionally small. (6) At first there may be vomiting and borborygmi. The tongue is more or less coated. Abdominal pains without tenderness may occur. The ileocecal gurgle is constant. The spleen is enlarged to percussion, though not palpable. Almost always there is marked diarrhea and the thin stool is yellow and of bad odor. An acid urine without albumin, and with positive diazo and indican reactions is voided. (7) The patients may be somewhat somnolent but as a rule the sensorium is free. (8) Roseola are present in half the cases. (9) The blood serum agglutinates an isolated paratyphoid bacillus. (10) Bronchitis and angina are frequent complications and rarely there are slight intestinal hemorrhages. Some cases clinically resemble typhoid, others differ considerably from this disease, but there never is agglutination with the true typhoid germ. The germ itself could not be isolated from the blood, probably because too small a quantity was examined. In discussing the disease, the authors state that it is by no means rare, since in certain epidemics as many as 6.6 per cent. of the supposed typhoids were really paratyphoids. Some patients are so little sick that they do not even go to bed, so that we can speak of an ambulatory type. In differential diagnoses, very mild and abortive typhoid, the typhoid form of influenza and gastrointestinal catarrh must be considered. The average duration of the disease is 20 days and the diagnosis can be rendered certain only by bacteriological examination, and the agglutination test. Like with typhoid, the etiology may be traced to milk and its products, and to drinking water. In the author's cases, the infection was probably derived from a stream passing through the town.

EYE, EAR, NOSE, AND THROAT.

Catarrhal Deafness.—It is a common idea that an occasional inflation is about all that can be done for the chronic catarrhal affections of the ear. Attention is also paid usually to intranasal and pharyngeal causes of catarrh which undoubtedly influence the condition markedly and should receive appropriate treatment, but the constitutional state is seldom examined with sufficient care to be placed in its proper relation to the local trouble. S. F. SNOW (N. Y. Med. Jour., Oct. 11, 1902) believes that the skin, liver, stomach and other organs exert a great influence on the head membranes and that no amount of local treatment will prove of permanent benefit so long as these are neglected. Cold baths and vigorous rubs with a harsh towel will do much to give tone and vigor to an inactive skin. The feet should always be kept warm and dry and proper protection for the body insisted upon, but a healthy easily reacting skin will be much less susceptible to influences and changes. The torpid liver and gastro-intestinal disorders are also important constitutional factors. Vigorous active arm exercises every morning as a routine have been known to materially influence the results from local treatment. A sensitive skin, low vitality and frequent constitutional derangements are frequently insurmountable obstacles in the way of improving catarrhal deafness.

Dilatation of the Pupil.—It is a common practice to use a mixture of atropine and cocaine, the former of these two alkaloids paralyzing the sphincter, while the second induces contraction of the dilator muscle of the pupil. Instillations of this mixture are made more frequently in accordance with the difficulty of causing an opening of the pupillary space. Thus it is that in severe iritis these instillations are repeated every two hours. E. FUCHS, of Vienna (La Sem. Méd., Oct. 1, 1902), is, however, not a partisan of this practice, which often gives symptoms of intolerance, of intoxication from the cocaine without in any way subduing the inflammation of the conjunctiva and without always securing the desired degree of dilatation of the pupil. He, on the contrary, prefers to use atropine alone, in rather large doses at long intervals, once, or at the most, twice in 24 hours. He places in the cul-de-sac of the conjunctiva a small grain of atropine salts. This procedure never has given symptoms of poisoning, providing care is taken to delay its absorption, if the lower lid is retracted and the lacrymal sac pressed so as to prevent penetration into the nose of the concentrated solution of atropine thus formed. Small children should not be treated in this manner, because they are very susceptible to atropine poisoning. In order to increase the dilatation of the pupil, and it is well, before putting the atropine salt into the conjunctival cul-de-sac to cocainize the eye slightly in the usual manner. The author states that he has carried out this procedure with great success in intense iritis and for the destruction of old synechia or for freeing the iris from a small perforation of the cornea of recent date.

THERAPEUTICS.

Hetol in Pulmonary and Laryngeal Tuberculosis.—For several years intravenous injections of hetol, a preparation of sodium with cinnamic acid have been employed by H. KRAUSE (Berl. klin. Woch., Oct. 20, 1902) in the treatment of tuberculosis. Other methods of administering the drug are regarded as inefficient. In cases of laryngeal tuberculosis the results have been satisfactory not only as regards the cure of initial lesions, but inasmuch as cases presenting a bad prognosis have been greatly relieved, the writer warns physicians against the careless temporary use of hetol; by such methods the treatment is brought into disrepute, since for good results persistent treatment extending over many months is requisite. Obstinate febrile disorder frequently yields promptly to hetol. Where extensive pulmonary lesions are present, the treatment produces marked improvement in the physical signs.

Agurin.—Under this name, a substitute for diuretin has been added to the diuretic remedies by Impen; the sodium salicylate of the latter preparation being replaced by sodium acetate, and its remaining constituent, theobromin, being increased so that, in agurin, the amount of theobromin is 10 per cent. greater than in diuretin. COMBEMALE and OBERS (Echo Méd. du Nord, Oct. 5, 1902) enunciate the following opinions concerning the preparation: In doses of two to three grams, agurin induces moderate diuresis of short duration, but its use must be accompanied by cardiac tonics and a milk diet. It is to be preferred to diuretin on account of the greater amount of theobromin it contains, but as its diuretic qualities depend chiefly upon that substance, theobromin alone serves the purpose better than agurin.

Value of Collargol.—All remedies have been tried by B. TROUW (Nederl. Tijdsch. v. Genees., 1902, No. 12), of Sumatra, to prevent the rapid extension of phlegmonous and septic processes such as are seen so frequently in the vulnerable Japanese and the Chinese weakened by the prolonged use of opium. The smallest wounds here are often fatal, or serious disfigurements may follow. With no remedy was the author so well satisfied as with collargol, which he injected subcutaneously in amounts of two to 10 grams into the vicinity of the infected wounds. Since extension of the process frequently ceased, prophylactic injections were tried in larger wounds with the gratifying result that in all cases healing was not interrupted by suppuration.

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THE SUEZ CANAL AND THE HEALTH OF THE NATIONS.

During the present generation Egypt has been the scene of four notable epidemics of Asiatic cholera, those of the years of 1865, 1883, 1895 and the epidemic now prevailing. The first of this series was the point of departure for an invasion of the countries of Europe and even of the United States. Europe was able to protect herself in 1883 and in 1895. The ultimate extent of the present epidemic is still uncertain, though there seems to be reasonable ground for the hope that the Anglo-Egyptian administration will succeed in overcoming the danger. The immediate responsibility for the preservation of Europe and America from this scourge rests largely upon the health authorities of Alexandria, a purely local body which in the present political situation is practically under British control. The gravity of the present situation, and indeed the constant importance of the sanitary control of Red Sea and Suez navigation to the entire civilized world, has prompted M. Proust to advocate before the French Académie de Médicine the organization of an international sanitary commission to whom it is proposed to entrust the supervision of the Suez gateway to the Mediterranean and the Occident.

It is evident that the local interests of Egypt in this matter do not precisely coincide with those of the rest of the world. Should the local authorities keep in view merely the protection of their own coasts, the danger to Europe and America would be grave indeed, for the detention of a cholera-laden vessel means one thing to Egypt and quite another to the foreign port for which the vessel is bound. While local authority prevails at Suez, Egypt holds in the hollow of her hand the health of the Western world. May not the responsibility be too great?

The mere assumption of good-will and good-faith on the part of the Anglo-Egyptian government does not satisfactorily dispose of this matter. The present epidemic in Egypt shows that however enlightened that government may be, its actual practice is no guarantee of safety even to its own subjects in its own territory. It has been proven that the coast of Egypt has not been sufficiently guarded and that more than 500 Mahommedan pilgrims, returning from Mecca, disembarked clandestinely on the Egyptian coast, entirely escaping the sanitary authorities. Nor is this the first occurrence of the kind, for three of the four great epidemics of cholera in Egypt have been traced to Mecca, one only being ascribed to the direct introduction of cholera from India.

There are therefore two good reasons for advocating thorough-going international surveillance over the commerce and travel of the Red Sea and the Suez Canal; first, the conflict of local and foreign interest, which demands twofold sanitary representation; and second, the proved laxity of the Egyptian administration. Governments recognize the strategic importance of the Suez Canal in relation to naval and military affairs; it is no less important strategically in a sanitary sense. Here, if anywhere, constant alertness will prevent incalculable mischief.

There would be, perhaps, political obstacles to the establishment of an international commission to watch over Suez and the Red Sea. But such obstacles ought not to prove insurmountable to common sense and diplomacy. If the great powers are willing to share the expense of the proposed sanitary inspection, and will agree that their commission shall have no executive functions, neither Great Britain nor Egypt can have any real reason for opposition. The purpose of the proposed commission can be achieved without the slightest disturbance of the existing political status. It is only necessary that nothing of sanitary significance shall escape notice. The presence of a supplementary body of inspectors would no doubt give a powerful impetus to the work of the executive officers of the local board of health, but in the event of a failure of the latter to perform its full duty foreign governments would have timely notice of danger and would be afforded a better opportunity than they now have to protect their ports. We therefore hope that the recommendations of M. Proust will take practical shape and that the Federal Government will be among the first to give its support to the measures proposed.

UNITY AND HARMONY.

Doubtless the laity can never appreciate the fine distinctions that for years have separated the physicians of New York State into two societies. Not many physicians, except those in the bondage of office, or those who love to set bounds for themselves, know exactly to which side the nobler group belongs. Some even in the indolence of their indifference have been like the "Lost Mr. Blake" who had been "known to indulge in profane and ungentlemanly emphatics when the Protestant Church was divided on the subject of the proper width of the Chasuble's hem."

At all events it has been a matter of congratulation and relief that at last both societies are willing to adopt a common organization and that a mutual effort is to be made towards unification.

But hope has given place to disappointment—temporary only we trust—with the recent publication of the resolutions of the joint committee of the two bodies (*New York State Journal*, Nov., 1902) for they present an annoying dilemma. The State Association is willing to merge with the Society providing the New York State Society will subscribe to the constitution and by-laws of the American Medical Association, which acceptance will bring into being a united society in affiliation with our national body. This clause however would not constitute a horn of the dilemma were any one sure of the course to be pursued by the American Medical Association in the adoption of a new constitution and by-laws.

The members of the New York Society are by no means inclined, and very rightly, we believe, to subscribe to any vague, chimerical and possibly impossible set of rules of conduct. Time alone will show, whether the new constitution of this national body will provide a suitable platform for the reorganized State Society; but time alone is lacking—for following the resolutions expressing the sincerity of both parties in their desire for union, we read:

"*Resolved,* That the committee is hereby continued for the purpose of cooperating with any committee from the Medical Society of New York to secure a charter from the legislature at its next session, in 1903, which charter shall reconstitute the two State organizations into one State body; as set forth in the preceding resolution, *but if the Medical Society of the State of New York shall fail to approve of such a plan of union by a charter to be secured at the approaching session of the legislature, in 1903, then this committee shall be considered as discharged and the proposition of this Association withdrawn.*"

Why should the committee be discharged and the Association refuse to cooperate if the Medical Society does not bind itself in a few short months to a new constitution that is not yet written. Why may it not be continued, until the emergency of doubt is past? Doubtless the American Medical Association will draw up a very excellent constitution, but what basis has the Society for action until this new National Constitution is an accomplished fact?

So long has the Medical Society of New York State been obliged to ignore petty quibbles on differences of constitutions and codes that it is weary of the prospect of more. And yet more must there be before a sensible and rational unification can be brought about, and may we suggest to both sides to have patience if ultimate good is the goal really desired.

TWO NOTABLE ADDRESSES.

The foreign custom of inviting eminent men in medicine to deliver opening lectures at the medical schools is very pleasing and agreeable. It is an innovation which has not been adopted to the extent it should be in this country. It is however gratifying to learn that through the generosity of Dr. Herter of this city, men of medical eminence are to be invited to visit the Johns Hopkins school from time to time and deliver lectures upon the results of their research work.

Two instructive addresses have been given in London this fall, upon neurological subjects of more than usual importance. Professor Erb, whose name is familiar in all fields of general medicine, but more particularly in nervous diseases, gave this year's opening address of the Post-Graduate College at the West London

Hospital, upon Spastic and Syphilitic Spinal Paralysis, and Dr. Ferrier gave the Harvearian Oration before the Royal College of Physicians upon the Heart and Nervous System.

It seems surprising, as Erb points out, that it was but 40 years ago that the anatomical foundation of locomotor ataxia was being first investigated, and that all inflammatory affections of the cord were comprised in the terms acute and chronic myelitis. For the latter class group we now have no less than a dozen well-established and distinct clinico-pathological entities.

To the refinements of the crude term chronic myeletis Erb has contributed notably and especially to the isolation and clinico-pathological description of the rare disease of primary lateral sclerosis. He takes opportunity to call renewed attention to syphilitic lateral sclerosis of the paralytic type first described by him, which now takes on characteristics quite identical with the combined system disease of the cord. In other words, that there are well-defined lesions of the lateral tract from syphilis as well as of the posterior columns. Professor Erb calls attention of all investigators to the necessity of determining why syphilis attacks the posterior columns at one time, lateral tracts at another, and still at another several tracts and fiber systems at once. The lecture is doubly valuable for its suggestiveness and should be read carefully by workers in clinical medicine.

Of an equally practical character is the address of Dr. Ferrier. It is mostly a review of our knowledge on the subject from the time of Harvey to the present. In addition the speaker gave the interpretation of his own not inconsiderable research upon the nervous mechanism of the heart and especially upon the vascular apparatus of the brain. The work of the physiologists Foster, Schafer, Mott and Sherrington on the cerebral circulation is given deserved prominence in the address.

ECHOES AND NEWS.

NEW YORK.

Women's Gift to Columbia.—Mrs. Frederic S. Lee, a former student in biology at Barnard College and Mrs. Henry Field Osborn, wife of Professor Osborn, have given funds to the college to equip a physiological laboratory in Milbank Hall.

Academy of Medicine.—The Section on Otology will meet Dec. 11; The Section on Surgery, Dec. 9; The Section on Pediatrics on Dec. 11, with the following program: Presentation of Cases: Hare-Lip by Dr. A. L. Fish; Examination of Milk by Dr. H. L. Swan of Albany; Dr. L. Emmett Holt will report on Foreign Body in the Intestine and Acute Pyogenic Infection in the Newborn; Dr. W. F. Chappel will report a case of Adenoids with Malaria.

Dr. M. Nicoll, Jr., has been elected a resident Fellow and Dr. H. E. Smyth a non-resident Fellow.

Parkhurst on X-Science.—The Rev. Dr. Charles H. Parkhurst preached inferentially about Christian Science last Sunday in the Madison Square Presbyterian Church and intimated that it is foolishness. Said he: "Of course, if you have faith in your physician that will help him in curing you. But as far as his medicines go, you may believe or disbelieve. He will cure you despite your scepticism. The working energy that is to overthrow the malady is in the doctor and his remedies. There is more to be commended in a rational scepticism than in an irrational faith. A man would be an irrational sceptic if he refused to take remedies prescribed by his doctor when sick."

Consumptive Convicts.—Superintendent of Prisons Collins will report to the next legislature surprising results of the scientific care of consumptive criminals. The large death rate in the prisons previous to the past few years was due mainly to consumption, and to minimize, if possible, this condition, Supt. Collins has had all consumptive prisoners sent to the State prison at Dannemora, up in the Adirondacks, one of the best places in the world for the treatment of the disease. Here the consumptives were subjected to a special treatment in the prison hospital, with the result of an estimated decrease in the death rate from this cause of 71 per cent. in the past five years compared with the five preceding years.

New Cottage Colony.—Options have been secured by the Hebrew Sheltering Guardian Society on several sites in The Bronx with the idea of moving out of the present asylum for boys and girls maintained in the neighborhood of the Grand Boulevard and One Hundred and Fiftieth street, and starting a new settlement with either cottages or pavilions. This is the second large New York institution to decide within six months to abandon the congregate plan of institutional construction, and, with larger grounds and small buildings, to supply its inmates with the nearest possible approach to home life. It is in line with the current trend of architecture, not only in children's asylums, but in institutions for the insane, epileptic colonies and the like.

To Eat Horse Meat.—Distinguished members of the Society for the Prevention of Cruelty to Animals, on account of the society's circular of Nov. 22, appealing for the larger use of horse meat as food, have been invited to a horse-meat dinner by the Fleischer Zeitung, national organ of the German butchers, which says it desires to measure the sincerity of the society in issuing its recent appeal to the public to eat more horse meat, so as to be merciful to animals unfit for work, which will be relieved of their sufferings if the consumption of horse meat is made more popular. The Fleischer Zeitung has not yet received any acceptances to the invitation cards, which were sent out Saturday. The paper promises to put up as good a horse-meat feast as an accomplished cook can produce, but the only material must be an aged, rheumatic beast, such as the society desires to emancipate. No young colts will do. The date set for the dinner is Dec. 25.

The Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons.—These will be given in the hall of the Academy of Medicine, No. 17 West Forty-third street, on Dec. 17, 29 and 30, at 8.15 P.M., by Dr. Richard C. Cabot, of Boston, Physician to Out-Patients, Mass. General Hospital; Assistant in Clinical Medicine, Harvard Medical School; Consulting Physician to the Massachusetts Eye and Ear Infirmary and to the New England Hospital, as follows: First Lecture—A Study of the Urinary Analyses and postmortem findings in 500 cases of disease affecting the kidneys, Second Lecture—A Clinical Study of the action of alcohol in disease with special reference to its effect on the circulatory system, Third Lecture—Truth and Falsehood in Medicine; an experimental study.

Resolutions Concerning Dr. A. M. Phelps.—At a meeting of a committee appointed by the President of the Medical Board of the City Hospital on November 22, 1902, the following resolutions were passed:

Whereas, the late Dr. A. M. Phelps served the City Hospital as Visiting Surgeon in a faithful and unselfish way for upward of 13 years, thereby contributing to its renown and efficiency, and, Whereas, during these years of service Dr. Phelps endeared himself to the Visiting Staff of the Hospital by virtue of his character, his energy and tirelessness in the work for the benefit of the Hospital, and aroused in them an admiration of his skill and manifest ability.

Be it resolved, that the Medical Board of the City Hospital record an expression of its regret in the untimely death of Dr. Phelps at the zenith of a career of usefulness, and further, be it resolved, that a copy of these minutes be sent to the family of the late Dr. Phelps, to the principal medical journals, and inscribed in the minutes of the meeting. (Signed) Joseph Collins, George E. Brewer, Edward S. Peck.

A Change of Hands.—With the December number, which closes the twentieth volume of the Journal of Cutaneous and Genito-Urinary Diseases, it passes again into new hands. A syndicate composed of members of the American Dermatological Association have taken it over, and intend to make it what it should always have been, a medium for presenting the subjects of dermatology and syphilology alone. It is a commonplace that there is no connection between them and genito-urinary disease, especially in its surgical aspect and both specialties have so grown in the last ten years that each needs an organ of its own. Dermatologists are fortunate in being provided for, with the prestige of the old journal to go upon, for there can be no doubt that there are some contributions too technical to find a place comfortable in the weeklies. Men in the genito-urinary line will doubtless found a periodical of their own, for which the time is ripe.

Announcement for 1903.—Beginning with the new year the Journal of Cutaneous and Genito-Urinary Diseases will be continued under the editorial management of Dr. James C. White and Dr. John T. Bowen of Boston, Dr. James Nevins Hyde of Chicago, Dr. Henry W. Stelwagon of Philadelphia, Dr. Prince A. Morrow, Dr. Edward B. Bronson, Dr. George T. Jackson and Dr. John A. Fordyce of New York. Dr. A. D. Mewborn of New York will be the acting editor. The editors will take an active interest in the Journal and by their united efforts hope materially to improve the quality of its contents. It is their desire to present a monthly review of all important advances in dermatology and syphilis both in this country and abroad. This journal has furthermore been made the official organ of the American Dermatological Association and will publish in addition to its transactions the proceedings of all the local societies throughout the country devoted to this specialty. In the future all communications relating to the editorial department should be addressed to Dr. A. D. Mewborn, 224 West 52d street, New York. The journal will be published by The Grafton Press, 70 Fifth avenue, New York, where all inquiries relating to subscriptions, advertisements, etc., should be directed.

New York Infirmary Forced to Close Department by Trachoma Epidemic.—The directors of the New York Eye and Ear Infirmary have agreed to close the throat department of the infirmary for an indefinite period. "We have been deluged with patients," said J. Harsen Rhoades, one of the directors, "and the institution no longer has the resources to treat them. We lack money and accommodations. The sum of $500,000 is urgently needed by the infirmary."

For nearly 28 years the throat department of the infirmary has been in existence, and during the last year it treated 9,600 new patients. While a limited number of old patients will continue to receive throat treatment, care for the thousands of future applicants will devolve upon the other dispensaries in this city. According to Dr. Richard H. Derby, the primary cause for the closing of the throat department is due to the fact that ninety-two inspectors from the Board of Health are sending hundreds of school children daily to the dispensary. "Owing to the epidemic of trachoma in the schools," said Dr. Derby, "we are fairly besieged by crowds of children accompanied by their parents. The crowds at times are fairly appalling.

"We had here on Saturday 301 new eye patients. They were mostly children, each one accompanied by several adults. On Monday we had 212 new eye patients, on Tuesday 179 and to-day 187. These were exclusive of the old patients and the applicants to other departments. The city should really take charge of the school children suffering from eye diseases. If it did, the epidemic of trachoma would quickly be ended. Dr. Lederle, of the Health Department, approves of some such plan, and he is in favor of the city making a per capita allowance for that purpose."

Precautions Against Typhoid.—The following letter has been sent to the Mayor, the Board of Health, and the Aqueduct Commissioners:

"The undersigned committee representing the New York German Medical Society, respectfully beg to submit the following brief suggestions: "Every year in New York a large number of people die of typhoid fever. In 1899 the mortality in 1,950 cases was 546, of which 294 were in the district supplied with Croton water, i.e., Manhattan and the Bronx. In 1900 the number of cases reported was even greater, being 2,638, with 725 deaths. In these statistics the percentage of mortality compared with that of morbidity is 28 per cent., while in general that of typhoid fever is 10 per cent. It is therefore to be assumed that a large number of light cases are not reported, and that typhoid fever cases in Greater New York exceed 4,000 annually. This is a matter that appears to call urgently for remedial measures.

"We would call attention to certain points which we believe to be of the greatest importance: (1) Care in supplying good drinking water; (2) Enlightening the public, and bacteriological control of ice and oysters; also supervision of public closets, etc.

"No one will oppose a demand for pure drinking water for New York by means of a suitable modern filtering plant.

"It is not necessary to enter into details concerning the Croton watershed, as every one knows that the water for nearly two million people comes from a populated district. This fact alone is enough to show the necessity of careful filtration. There is always a possibility that a newly landed immigrant in New York, the gateway of the country through which people of all nations pass, may be suffering from a light case of cholera, and, having escaped the vigilance of the doctors at quarantine, be employed on a farm in the Croton region and contaminate the water. The epidemic that would ensue might easily reach a hundred thousand cases.

"Another suggestion is that public closets, especially in hotels and trains, be systematically inspected and disinfected, and that this inspection be extended to the transportation of manure.

"The Committee of Typhoid Prophylaxy."

PHILADELPHIA.

Typhoid Fever Stationary.—The number of typhoid cases remains about the same as for some weeks past, the new cases for the last two weeks being 128 and 127, respectively, with 26 deaths during the two weeks.

Large Donations for German Hospital.—The annual Donation Day at the German hospital was observed on Thanksgiving, the donations being far in excess of expectations. The total was $9,000 in cash and about $2,000 worth of goods.

Pennsylvania Society to Protect Children from Cruelty.—This society recently celebrated its Twenty-fifth Anniversary and begins a new year under very promising conditions. During the 25 years the following work was accomplished: There were 22,087 complaints investigated, 53,891 children rescued and relieved, 5,349 convictions of mothers and fathers for failing to provide for their issue, 13,651 children were removed, 10,970 clothed and sheltered and 202,570 meals were provided to the needy.

Physician Assaulted by Ruffians.—Dr. Justus Sinexson was severely beaten Nov. 28 by two men whom he had rebuked in a street car for the use of vile language. They followed the physician when he left the car and assaulted him as he was about to enter a patient's house. He was overpowered after he had wounded both of them slightly with a small pocket knife. All three were treated at the German hospital and the two assailants were held for a hearing.

The Slave Girl Syndicate.—Further efforts are being made to ferret out the principals in the abominable traffic recently unearthed in connection with several houses of prostitution in this city. It appears that agents of a syndicate regularly visited points in Russia, Germany, and Austria and induced young girls to come to this country under pretext of securing them employment. On arrival here they were sold at so much per head to owners of the houses in question. The city authorities are placing the blame upon the policemen of certain districts and several are likely to be dismissed. Daily papers claim that the trade has been known to the authorities for some time, but no effort towards its suppression was made until the German Consul made complaint.

Jersey Prisons Condemned.—Serious charges against the correctional institutions of New Jersey are made in the recent annual report of the State Charities Aid Association. Hardly an institution escapes arraignment, those in the southern portion being most severely condemned. It is stated that fifty applicants are on the waiting list of the Home for Feeble Minded Children at Vineland because they are simply refused admittance, one of the cases being an idiotic boy chained in his home, application for his admittance having been on file for 18 months. Charges of gross negligence and immorality in asylums and jails are also made.

Pennsylvania State Board of Health.—The State Board of Health will make an effort at the coming session of the Legislature to secure an appropriation of $50,000 to be used as an emergency fund for epidemics. With all its powers and duties, including the general supervision of the welfare of the commonwealth, the study of vital statistics, sanitary investigations, inquiries as to the causes of disease (including the epidemic diseases of domestic animals), and the "sources of mortality and the effects of localities, employments, conditions, habits, foods, beverages, and medicines on the health of the people," the Board receives an annual appropriation of $6,000. The members serve without pay, receiving only a limited amount for personal expenses. In view of these facts it is believed that the modest demand of the Board will be acceded to by the Legislature.

Dr. Jacobi to Visit Philadelphia.—Dr. A. Jacobi of New York will be the guest of the Philadelphia Pediatric Society and deliver an address at the stated meeting to be held Dec. 9. Following the meeting a reception by the medical profession of Philadelphia will be tendered Dr. Jacobi at the Hotel Stenton.

The Significance of Leucocytosis.—A valuable contribution to the above subject was read at the meeting of the County Medical Society, Nov. 26, by Dr. Robert N. Willson. He questions the accuracy of Cabot's definition of leucocytosis, considering it an error in two respects. First, it is not necessary that there be an increase in the total number of leucocytes. If they remain at a normal number or even below normal there is still a leucocytosis if there is an increase in the polymorphonuclear varieties. Second, the total number of polymorphonuclears may not be increased and may even be diminished and yet there be a leucocytosis. Dr. Willson claims that a thorough examination of the blood has not been made until there has been a differential count and special attention was called to the value of such a count. However, both absolute and relative increase in the polymorphonuclears must be weighed in connection with the clinical facts in the case. When there is an absolute increase, it indicates the presence of a purulent collection or a grave inflammatory process that may threaten the life of the patient.

Explanation of the Forms of Leucocytosis.—Dr. Willson said that in all inflammations there is a tendency to phagocytosis which results in an increase of leucocytes, with both a total and relative increase in the polymorphonuclears. When tissue resistance diminishes, phagocytosis is not so active and the total number of leucocytes also diminishes. But a relative polymorphonuclear leucocytosis persists because the adult cells must predominate. This accounts for the polymorphonuclear increase, though the total count may range only from 4,000 to 6,000. In regard to the question as to when a polymorphonuclear increase becomes significant, Dr. Willson regards a count of 80 to 85 per cent. as very suggestive of dangerous inflammatory conditions. When the count is over 90 per cent. the situation is more grave, and scrupulous attention should be given to such patients. Even in walled-off abscesses there is a relative leucocytosis, an instance of isolated axillary abscess with counts of 80, 92 and 93 per cent. being cited.

Clinical and Diagnostic Value of Leucocytosis.—Dr. Willson strongly insisted upon the recognition of the fact that no definite number of leucocytes, in an absolute leucocytosis, can be fixed upon as suggesting a certain thing. In other words, leucocytosis is not diagnostic. The blood picture is of value as an adjunct to clinical symptoms and signs and must be viewed in that light. When given its proper place it is an exceedingly valuable aid, either in confirming a suspected condition or in suggesting the presence of a process that had hitherto been unsuspected by the clinician.

Simultaneous Rupture of Both Quadriceps Extensor Femoris Tendons.—Dr. Henry R. Wharton reported this case at the Academy of Surgery, Dec. 1. The patient received the injury by falling from a car. Fixation and evaporating lotions were used but absolute inability to move the limbs persisted. The patient was seen by Dr. Wharton one month after the accident, operation being recommended and performed. The tendons were ruptured about one and a half inches above the patella, the ends being separated by blood clots which extended into the joints. The ends of the tendons were freshened with difficulty as they contained bony or calcareous deposits, which probably accounted for the rupture. They were united by sutures of chromocized catgut and entire return of function finally secured.

Extensive Gunshot Wound of Arm.—This patient, a boy of fourteen years, was shown by Dr. DeForest Willard. While gunning one month ago the boy received an entire charge of shot in the right forearm, the distance from the gun being five or six feet. All the structures on the radial side of the forearm, including four inches of the radius, were torn away, practically all that was left being the ulna and the ulnar artery. The patient had come a number of miles after receiving the injury and the hand was cold. Amputation was at once suggested, but because of the age of the patient Dr. Willard determined to try and save the arm. The ulna could not be resected as that procedure would have caused folding of the artery and occlusion of the slight remaining blood supply. Gangrene was expected but appeared only in the dry form. The tips of the fingers and the distal phalanx of the thumb are the only portions of tissue that will be lost. It is considered that the deformed arm, even if awkward, will be better than an artificial limb. The ulna will probably grow and cause still more deformity, but this can be remedied later on if necessary.

CHICAGO.

Degree Conferred on Dr. Lorenz.—The degree of LL.D. was conferred on Dr. Adolph Lorenz, of Vienna, Austria, by the Northwestern University Nov. 28. Dr. Lorenz was presented to President James for the degree by Dr. N. S. Davis, Dean of the Medical School.

Report of Special Committee on the Institutions at Dunning.—Drs. Hugh T. Patrick, Frank Billings, and other members of the committee in their report, among other things, say: The inadequacy of the present buildings, their necessarily crowded condition, has to a large degree made it impossible to properly classify the patients and segregate the various classes, so as to provide for each case, or class of cases, the peculiar care or attention demanded. As rapidly as possible, a general reclassification of the institutions should be put into effect. Working patients and quiet and tractable patients should be housed in quarters suitable to their condition, and employed in such manner and to such extent as their condition admits. Disturbed and acute patients should be quartered in wards or cottages adaptable to their conditions and surrounded by the things their peculiar character demands.

Asylum and Almshouse Separate.—The committee believes that there should ultimately be a complete separation of the insane asylum and almshouse. Each institution necessarily has a distinctive character. No advantage to either is obtained by their association together. The State should, as soon as possible, assume charge of all insane patients and provide institutions for the care of all classes of insane and epileptics.

School to Train Nurses.—One of the defects in the present condition and administration of the Dunning institutions which was at once apparent to the committee is the entirely inadequate number of attendants, the lack of proper instruction of the same, and the infusion of that spirit which is inseparable from humane and efficient nursing. For the proper organization of the attending and nursing corps, the committee recommended that a training school for nurses be organized, this organization to include the employment and training of male as well as female nurses.

Plan of Separate Housing.—Quarters should be provided for the imbeciles and epileptics in Wards I and II, in the infirmary. The quarters for these particular patients should be on the ground floor, and should be constructed with a strict regard for sanitary and hygienic conditions. Quarters, preferably in cottages of approved type of modern style of asylum cottage architecture, for about 70 epileptics, male and female, to be taken from the various wards of the old buildings, should be provided.

For the Consumptive Cases.—The intelligent and scientific case of consumptive patients has occupied much of the attention of the committee. The present consumptive hospital seems to the committee quite unfitted for the needs of the class of patients attempted to be cared for there. There should be some attempt to discriminate between the hopeful cases and those which cannot be classed as hopeful. The best modern scientific methods of treating hopeful consumptive cases require an abundance of fresh air, outdoor life, nutritious diet, and the best sanitary and hygienic surroundings. Any extensive attempt to properly care for this class of patients would involve the establishment of properly constructed buildings or cottages located at some distance from the city, and separated from the other institutions, so that the particular character of attention and care required by this class of patients can be given them. The committee recommended that cottages be constructed of the type approved by the sub-committee for the accommodation of these hopeful consumptive cases, and that provisions likewise be made for the care of those cases that cannot be classified as hopeful, by the construction of wards or buildings for their accommodation within the city, on the present hospital grounds or elsewhere.

Needs of Old Buildings.—The old buildings, particularly the old asylum building, should be thoroughly remodeled. The plumbing should be overhauled; the bathrooms and closets reconstructed, and wherever possible shower baths should be substituted and modern plumbing installed. In spite of the handicap of antique construction of this building, many improvements can be made in it looking to the comfort of the patients. As soon as it is possible the old infirmary building should be converted to other uses.

Type of New Buildings.—The new buildings to be constructed should conform to modern ideals of asylum architecture. They should not be more than two stories in height. Some of the buildings might properly be of the so-called pavilion type, provided, however, that they are constructed with due regard to light and air, and should take such form that it will be possible to make the wards cheerful and homelike.

Obscure Diphtheria.—Investigations of the deaths from diphtheria show that many of them were due to a deceptive type of the disease. Parents and even some physicians have been deceived when the most malignant form of the disease was present and death has ensued because the administration of antitoxin was thereby delayed. The true nature of the disease can only be learned by taking a culture, and when there are so many of these cases present as now, this should never be omitted. Antitoxin should be administered at once in every suspicious throat case; it can do no possible harm in any event; it will certainly prevent death from diphtheria if used within the first 48 hours.

Hydatiform Mole, with a Report of Two Cases and Clinical Deductions from Two Hundred and Ten Reported Cases.—Dr. Palmer Findley read a paper on this subject before the Chicago Gynecological Society of which the following is a summary: (1) Nothing definite is known of the immediate and remote causes of hydatiform mole. It most frequently occurs between the ages of twenty and thirty, and is 2½ times as frequent in multipara as in primipara. None of the general or local diseases is positively known to have a direct bearing upon the development of the mole. (2) The weight of evidence is in favor of a maternal origin; the vesicular degeneration of the chorionic villi resulting from a disturbed maternal circulation. Failure on the part of the maternal circulation causes a degeneration of the connective tissue stroma of the villi; together with serous infiltration or edema. The syncytium and Langhan's cells penetrate deeper into the decidua where the nutrition is adequate—a fact which accounts for the unusual proliferation of these epithelial elements in hydatiform mole. (3) There is no proof that cystic degeneration of the ovaries has any influence upon the development of cystic degeneration of the ovum; the former is so common as compared to the latter, it is not likely that they stand in relation of cause and effect. (4) Malignant degeneration of hydatiform mole occurs in about 16 per cent. of all cases. No sharp line can be drawn between benign and malignant hydatid mole. Syncytial invasion of the connective tissue stroma of the villi and of the uterine musculature occurs under normal conditions, and cannot be regarded, in hydatid mole, as evidence of malignancy, unless found to a marked degree. (5) Contrary to the usual statement, that there is a tendency to the development of two or more hydatiform moles, it is found to be the great exception. (6) It follows that a macroscopic and microscopic examination of discharged vesicles will not determine the benign or malignant character of a mole. (7) The length of time a mole remains in utero does not influence its disposition to become malignant; those expelled in the early months are as likely to become malignant as those of late development. (8) The diagnosis of an hydatiform mole cannot be made with certainty without seeing the vesicles. These vesicles are seldom expelled spontaneously before the abortion is in progress (four times in 210 cases); hence it is that the diagnosis is rarely established until the expulsion of the mole, either spontaneous or induced. (9) The most constant clinical evidence of the presence of a mole is the rapid development of the uterus. Uterine hemorrhage is an early and almost constant symptom. The irregular shape and consistency of the uterus are important diagnostic factors. (10) In view of the tendency of hydatiform mole to undergo malignant degeneration, the only safeguard lies in early recognition and immediate removal, however limited the degeneration may be. (11) Ergot and vaginal packs will control the hemorrhage and will often excite the uterus to contract and expand the mole. The curette should not be used for fear of performing the greatly stretched and weakened walls. (12) After the mole is expelled, always explore in uterus with the finger, irrigate and pack with antiseptic gauze. (13) Two weeks after the birth of the mole, it is well to curette the uterus and examine the scrapings for syncytial invasion, and if found in the act of proliferating hysterectomy should be performed. (14) A period of about three years of watchful expectancy should follow the expulsion of an hydatiform mole. In the event of uterine hemorrhage, an exploratory curettage must be made for microscopic examination of the scrapings. All new growths in the vagina and lungs are to be regarded with suspicion. (15) The following is a summary of statistics derived from the accompanying reports of 210 cases: Average age of patient is twenty-seven years. Extreme ages are thirteen and fifty-eight years. Largest numbers of moles born of a single woman is 11; eight of the 210 cases had cystic degeneration of the ovaries. One hydatiform mole developed in the Fallopian tube. Malignant degeneration occurs from one week to 4½ years after the expulsion of the mole, as evidenced by the recurrence of hemorrhage. Mortality of hydatiform mole is 25 per cent. Causes of death: Syncytioma malignum, 16 per cent.; hemorrhage, four per cent.; septic peritonitis, two per cent.; general sepsis, uremia, nephritis, endocarditis, meningitis, each .005 per cent.; two of unknown causes.

Albugineotomy in Chronic Orchitis.—Dr. Emanuel J. Senn read a paper on this subject. He said the surgeon frequently encounters cases of chronic orchitis, either the result of a hematogenous inflammation, a specific infection from the urethra, or of traumatic origin. These cases are chronic in their course, and often baffle conscientious conservative treatment. The case illustrates the value of albugineotomy, as this operation was performed instead of castration: W. E. D., aged twenty-seven years, American, single. Patient had diseases of childhood; gonorrhea at the age of eighteen, one year later a supposed soft chancre. During the year 1898 he had malaria and measles while serving in the Spanish-American war. During February, 1902, without any apparent cause, the right testicle became enlarged and tender. He consulted a physician, who made some local applications, when the testicle diminished to its normal size, and the tenderness left. On May 1, the testicle again became enlarged and tender. All palliative measures failed to give relief, and he entered the medical service of the Presbyterian Hospital on May 14. The right testicle was found to be enlarged three times the size of its fellow, and was exquisitely tender to the touch. No discharge from the urethra. The patient was placed in the recumbent position and hot moist compresses were applied locally. His doubtful previous syphilitic history was taken into consideration. He was placed upon increasing doses of iodide of potassium, but no benefit whatever was secured from this treatment. The pain was greatly increased upon walking, which prevented him from leaving his bed. Patient next underwent X-ray treatment, with no amelioration of symptoms being manifest. A malarial orchitis was next thought of, but repeated examinations of the blood proved negative. Patient was then transferred to the surgical service for castration, a probable diagnosis of sarcoma having been made. The clinical history, however, to the mind of the essayist, pointed to an inflammatory origin of the disease, and he resolved to do an albugineotomy. August 26, 1902, an incision was made in the scrotum. No fluid found in the cavity of the tunica vaginalis. The testicle was greatly enlarged, pyriform in shape, and elastic to the touch. The envelopes of the testicle were firmly adherent and under great tension. The epididymis was slightly enlarged, and the vessels on its surface congested. The tunica albuginea was incised on the convex surface of the testicle from pole to pole, and the margins of the wound were mobilized from the subjacent structures for a distance of a quarter of an inch. The wound surface was an inch wide in the central part of the incision. A small portion of the cortical substance was removed for examination. After cleansing the parts with normal salt solution the testicle was dropped back into the scrotum, and the external wound closed. Relief from pain, which had been constant for four months, followed immediately after the operation. Subsequent examination of the testicle five days after the operation showed it reduced to its normal size, and painless. There were firm adhesions between the denuded surface of the testicle and the parietal layer of the tunica vaginalis. The patient was allowed to leave his bed on the seventh day, and was discharged from the hospital on Sept. 13, 1902. The benefit derived from this operation was summarized as: (1) Relief of tension; (2) direct drainage of the intercellular spaces, and (3) resolution of primary pathological products. The author believes that castration is too frequently performed. Albugineotomy should be first given a trial, and will be successful in the majority of cases, provided degenerative changes have not destroyed the entire integrity of the organ.

Mr. Armour to Honor Dr. Lorenz.—The daily press reports that as a monument of gratitude for his daughter's reclamation from a life of helplessness through Dr. Lorenz's operation, J. Ogden Armour has now turned philanthropist, like his father, and formed plans for a Lolita Armour Institute of Bloodless Surgery, which is to be endowed with $3,000,000. It was announced by Mr. Armour that the institution will be absolutely free to whoever may need treatment. There is not to be a knife in the place. Mr. Armour said he had selected the site, and that the only thing remaining to be done is the construction of the building and the equipment. It was decided that the hospital will need an endowment of nearly $3,000,000 to insure an income of $100,000 a year.

CANADA.

New Brunswick Items.—The annual report of the secretary of the Board of Health of St. John, N. B., for the year ending Oct. 31 shows that there were 714 deaths in that city in that year. Ninety-two deaths were registered as due to diseases of the circulatory organs, while 89 died from diseases of the respiratory organs. Word was recently received at the C. P. R. offices at St. John that smallpox had made its appearance in northern Maine and that the village of Jackman with 500 inhabitants, had been quarantined. It is believed that the outbreak originated in the lumber camps, along the border line between Maine and New Brunswick. The United States authorities are taking prompt measures to control the outbreak. The secretary of the provincial board of health of New Brunswick, Dr. E. B. Fisher, held a conference last week with the officials of Kent County where an extensive outbreak of smallpox exists. All the residents of the quarantined districts have been vaccinated and there have been no new outbreaks. The situation is said to be looking much more favorable.

Province of Quebec News.—The Victorian Order of Nurses has established a branch in Quebec City. The preliminary arrangements were in the hands of Dr. Colin Sewell, who had secured 15 life members before the Order was established there. Life membership in the Victorian Order costs $100, and the annual subscription to qualify members to vote for governors is $5.00. None of the Catholic clergy attended the inauguration meeting, replying to the invitation to be present that their people were well supplied with nurses, from the various orders of hospital nuns, and that another order was also to be established by them in the near future.

Dr. T. A. Starkey of the University College, London, England, who was recently appointed Professor of Hygiene at McGill University, Montreal, has arrived in that city to assume his professorial duties. Dr. Starkey was graduated from University College in 1894. After serving for a short time as interne in the Brompton Hospital, he went to India, and from 1899 to 1901 was stationed at Bombay, working under the famous bacteriologist, Haffkine, in the Imperial Research Laboratory. Since his return to England he has been pursuing his public health work in the laboratories of University College, London.

A new chemical society has been formed at McGill University, with Dr. Harrington as president, Professor Ruttan vice-president, and Dr. Evans as secretary. The meetings of the society are to be held fortnightly on alternate weeks with the Physical Society. The objects of the Society are to enable the members of the University staff to become familiar with the work that is being done in chemistry in the institution. Descriptions and detailed information will be given from time to time of organized work that is being done in chemistry in the world; and students of chemistry will now have an opportunity of hearing all the latest discoveries in that science discussed.

At a meeting of the Victorian Order of Nurses held last week in Montreal, Lady Minto was present and delivered an address on the working of the order. She expressed the hope that before the expiration of the term of the present Governor-General that the sum of $100,000 would be raised for the purposes of carrying on the work of the order throughout the Dominion. During the past official year the amount spent in Montreal for nursing had amounted to $8,801 as against $3,673 spent in Toronto, although the work in the two cities had been in about the same proportion. That the order is prospering in Canada is evidenced in the anouncement that four years ago there were only 19 nurses employed. To-day there are 47, besides 17 assistant nurses and probationers. Five new nurses have lately been admited to the Order.

News from Ontario.—In Ottawa during the past 12 months there have been 1,173 deaths as compared with 1,273 for the corresponding 12 months of the preceding year. The death rate per thousand of the population which is put down at 60,000, is estimated at 19.5 per cent. as compared with 21.1 per cent. for the previous year.

A delegation from the Toronto Barbers' Association waited on the Ontario Board of Health at its quarterly meeting held last week in that city and discussed with them the advisability of introducing hygienic methods into their business. Dr. J. J. Cassidy introduced the subject, dealing with infectious diseases and pointing out wherein these concerned the tonsorial artists. The barbers were very much interested and at the next meeting of their association, the subject will be introduced with the idea of initiating definite action along the lines indicated.

The Ontario Vaccination Act is out of date according to the secretary of the provincial board of health, Dr. Bryce. At the regular quarterly meeting of the Board last week held in the office of the secretary Dr. Bryce presented his annual report. He recommended in his report that the Act of 1863 be repealed and that a more simple Act be passed in its stead. He further suggested that the new Act provide for a monthly report of all children born in a municipality, to be made by the municipal clerks to the district health officers, who would be appointed public vaccinators required to proffer free vaccination to all such children at their homes. The Act should further provide that any children arriving at school age unvaccinated must not be admitted to any educational institution.

GENERAL.

Streptococcus Serum.—In a recent abstract from the Montreal Medical Journal on this serum we stated that it was brought out by Dr. Geo. A. Charlton: We find that the serum was originally made by Dr. Hubbert in the F. Stearns & Co. laboratory and was extensively used by Dr. Charlton.

The American Association for the Cure of Inebriety.—This association will hold its thirty-second annual meeting in the hall of the Washingtonian Home, Waltham street, Boston, Mass., Dec. 18, 1902. The first session, beginning at 2 P.M., will be devoted to a symposium on the Treatment of Inebriety. Papers will be read by Dr. Coles of the MacLean Asylum, Dr. Drew of the asylum for Insane Criminals, Dr. Ellsworth of the Washingtonian Home, Dr. Elliot of Willard Hospital, Dr. Rodebaugh of Parview Home, Ohio, Dr. Stearne of Norway Sanitarium, Indianapolis, Dr. Shepard of Brooklyn Sanitarium, N. Y., Dr. Osgood Mason of the Retreat, New York City, and others. In the evening session, beginning at 8 P.M., the president, Dr. L. D. Mason of Brooklyn, N. Y., will deliver the annual address. Dr. T. D. Crothers of Hartford, Conn., will read a paper on Inebrity in Ancient and Modern Times, followed by addresses by Drs. Marcy, Madden, Didama, Kellogg, and others.

Nobel Prize.—The Nobel research prize of $40,000 has been awarded to Major Donald Ross of the Liverpool School of Tropical Medicine in recognition of his investigations into the mosquito-malaria theory. Major Ross will go to Sweden next month, when King Oscar will present the prize to him. Three other Nobel prizes were awarded, as follows: Natural science and chemistry, Dr. Emil Fischer of the Berlin University; physics, Dr. Arrhenius of the Stockholm High School; medicine, Dr. Finsen. Each prize is worth 160,000 marks.

Grateful Patient Wills $7,000 to a Hospital.—St. Michael's Hospital, in Newark, has received word that it is to inherit the entire estate of Patrick Flanagan, of Perth Amboy, amounting to $7,000. Flanagan died in the hospital the other day, after having been cared for there for two months.

The Army Canteen and the Secretary's Report.—Most urgently does Secretary Root insist that a return be made to the army canteen. On this subject he says:—

"Referring to the operation of section 38 of the act of Feb. 2, 1901, which prohibits the sale of beer and light wines in post exchanges, I said in my last report that a great body of reports had been received which indicated that the effect of the law was unfortunate, but that I thought a sufficient time had not elapsed to give the law a fair trial, and that the observation and report of its working would be continued during the ensuing year. A great number of additional reports have now been received, and they confirm the impression produced by the earlier reports. I am convinced that the general effect of prohibiting the use of beer and light wines within the limited area of the army post is to lead the enlisted men to go out of the post, to frequent vile resorts which cluster in the neighborhood, to drink bad whisky to excess, and to associate with abandoned men and abandoned women, and that the operation of the law is to increase drunkenness, insubordination and desertion, and moral and physical degeneration."

Death Rate of Army.—Announcement is made that an order has been issued, which reduces the enlisted strength of the army to 59,866, of which only 13,480 will remain in the Philippines. While European governments are levying conscriptions to fill their armies, Secretary Root reports that more than three applicants for enlistment in the United States Army are refused to every one accepted. Out of 124,542 applications made last year, only 37,461 were enlisted.

It will come as a surprise to most persons that the lowest death rate in the American army is in Cuba. On this subject Secretary Root says:

"The health of the army has shown a continued improvement. The deaths from all causes during the year 1901 amounted to 13.94 per thousand of mean strength, as against 22.74 per thousand of mean strength during the year 1900. This large reduction of death rate was in a great measure due to improved conditions in the Philippines, where the rate was reduced to 17.96 per thousand in the year 1901, as against 29.42 per thousand in the year 1900."

Changes in the Medical Corps of the Navy.—Week ended Nov. 29. Acting Assistant Surgeon B. F. Jenness, appointed Assistant Surgeon Nov. 11, 1902. Surgeon G. P. Lumsden, detached from the New York and ordered to the Hancock. P. A. Surgeon E. M. Ship, detached from the Naval Station, Cavite, P. I., and ordered to the Wilmington.

Dr. Walter Reed.—The sudden and unexpected demise of our esteemed friend and colleague, Major Walter Reed, U. S. A., professor of Bacteriology and Pathology in the Medical School of Columbian University, is an event that brings to us the most acute regret and overwhelming sorrow.

Taken from us in the prime of manhood, and in the zenith of his professional usefulness, at a time when the medical profession and humanity at large, were prepared to do him homage for his great work in demonstrating the method of exterminating yellow fever by protection from inoculating mosquitoes, and by which that fatal disease has been abolished from some of its most malignant haunts; at a time too, when his relations with the faculty and students of Columbian University had become securely united by bonds of mutual affection and esteem; under these circumstances it is with a most earnest and sincere feeling that we the Medical Faculty of the Columbian University hereby desire to express our unreserved admiration for the work, life, and character of Prof. Reed, both as a physician, a teacher, a trusted friend, and a man of science; in testimony whereof it is hereby

Resolved: that the foregoing note be recorded in the permanent archives of the Faculty; that a copy of the same be given to the Press for publication, and also forwarded to the family of Dr. Reed as an evidence of our sympathy for them in their great sorrow. Resolved: that as a further mark of respect for our lamented colleague, the exercises of the Medical School be suspended, and that the students and Faculty attend in a body his funeral obsequies. Signed: A. F. A. King, J. Ford Thompson, James Carroll, G. Whyte Cook, Geo. N. Acker, Committee.

The Study of Bacterial Cells.—The report of the Rockefeller research in the hygienic laboratory of the University of Michigan, for the year 1902, has recently appeared in pamphlet form. It is taken from "The Transactions of the Association of American Physicians, 1902." The work, "A Study of Bacterial Cells," was carried on under the direction of Dr. Victor C. Vaughan, in the laboratories of the University. By means of large incubating tanks devised by Dr. Vaughan, cellular substance of pathogenic bacteria was obtained in large amount. It was with material thus obtained that all the experiments were carried on. The research work was not confined to toxins alone, but a broader study of cellular chemistry was attempted. Incidentally an opportunity offered itself for the study of some of the bacterial pigments which were found in the tank growths in large quantities. The germs were scraped from the tanks with glass rods, and repeatedly extracted with alcohol. In many cases the extractions were made with water. The alcohol seemed to harden the cells.

The pamphlet contains the following papers: (I.) Introduction, Victor C. Vaughan, M.D., LL.D.; (II.) A Preliminary Report on Certain Bacterial Pigments, A. J. Detweiler, A.B., M.D.; (III.) The Toxicity of the Dry, Sterile Cells of Certain Non-Pathogenic Bacteria, A. J. Detweiler, A.B., M.D.; (IV.) The Chemistry of Sarcina Lutea, May Wheeler, A.B. (V.) The Chemistry of the Bacillus Coli Communis, Mary F. Leach, B.S.; (VI.) The Toxicity of the Cellular Substance of the Colon Bacillus, Charles E. Marshall, Ph.D., and L. M. Gelston, A.B.; (VII.) The Interacellular Toxins of the Diphtheria Bacillus, L. M. Gelston, A.B.; (VIII.) The Anthrax Toxin, J. Walter Vaughan, A.B.; (IX.) Conclusion, Victor C. Vaughan, M.D., LL.D.

Obituary.—Dr. Mirza Nestor Benjamin died in Dunkirk last week at the age of fifty-nine. He was born in Urimia, Persia, where he began the study of medicine. He came to this country when 19 years old, and completed his medical course at the University of Vermont, afterward practising in Bellevue Hospital, New York. He was a veteran of the Civil War, in which he served as a surgeon. He was proficient in nine languages and made a translation of the Bible for the American Bible Society.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, November 22.

THE NEED FOR THE REFORM OF THE LUNACY LAW—AN ANTICIPATION OF CECIL RHODES'S SYSTEM OF OXFORD SCHOLARSHIPS—SIR THOMAS BARLOW ON THE DRINK HABIT—THE NEW MIDWIVES BOARD.

Sir William Gowers delivered his soul a day or two ago before the Medico-Psychological Association of Great Britain on the present state of our lunacy law. He said the chief object of the latest form of that piece of legislation was to prevent those who were not insane from being treated as if they were, to prevent those of sound mind being deprived of personal liberty by detention in an asylum or elsewhere, and to ensure proper treatment for those who were detained. To secure these objects it was decreed that all persons of unsound mind should be deprived of liberty, stigmatized as insane and placed under the absolute control of the Commissioners in Lunacy. No distinction, said Sir William, is made, no discrimination is permitted; all forms and degrees of mental unsoundness must in regard to detention be treated alike. He is convinced that in this way injustice and positive injury are done which exceed in total amount that which the law can prevent. As the law stands, if any money is received by those who have charge of the patient, there must necessarily be the same certification, the same branding as insane, the same official inspection, the same official control, the same restriction of personal liberty as if the patient were in an asylum. At the same time those on whom a person of unsound mind is dependent may keep him uncertified in his own house. The radical defect of the present law, according to Sir William Gowers, is that there is no provision whatever for the proper treatment of borderland cases: they must either be sent to an asylum, or remain at large to their own serious disadvantage and to the possible danger of those about them and of the public. Sir William Gowers gave a number of striking examples of the injurious operation of the law in such cases. He said he was certain that if it were strictly carried out everywhere by everyone, the result would be a considerable increase of insanity, not merely by increasing the number of lunatics definitely adjudicated to be such, but by preventing the recovery of many patients. This disaster is at present avoided only by sending, in defiance of the law, borderland cases uncertified to the care of persons who are willing to take the risk. Sir William holds that every security against abuse offered by the present law would be obtained by a comparatively simple change. He would let the law remain as it is in regard to all cases in which certification is obviously necessary. But in all cases of mental unsoundness in which certification and compulsory detention seem to be needless, and in borderland cases respecting which doubt may reasonably be felt, he would substitute a system of notification to the Commissioners in Lunacy who can then visit the patient if they think proper, and repeat the inspection from time to time. It is generally admitted that the time is ripe for a change in the Lunacy Laws in the direction of greater elasticity in the regulations for the care of borderland cases. At present there is no provision at all for this, and the result is manifest on the one hand in the compulsory detention of cases which an asylum environment drives over the borderland, and on the other in the number of motiveless crimes of one kind or another committed by persons whom, though mentally unsound, it would be dangerous for a doctor to certify. Unscrupulous solicitors are always at hand to urge persons who have been confined in an asylum when they regain their liberty to bring an action against the doctors who signed the certificate. I could cite many instances in which practitioners have been almost ruined by such actions, even when the verdict was in their favor. The plaintiff generally has no money and the doctor has to pay the costs. Hence medical practitioners are very chary of signing lunacy certificates, and as a consequence there are many insane persons at large. Another crying need is provision for the observation and treatment of acute cases in which recovery is certain to be delayed and not unlikely to be completely lost if they are herded with a collection of every variety of insanity in a madhouse. The London County Council has for a considerable time had under consideration the establishment of a receiving house in London where persons suspected to be of unsound mind could attend as outpatients for observation and taken in, if need be, for treatment if there is a prospect of speedy cure. If the disease is, or seems likely to become chronic, they can be sent to an asylum. Sir John Sibbald, formerly a Commissioner in Lunacy for Scotland, has suggested the appropriation of wards in general hospitals to insane patients. This plan would have some of the advantages of the receiving house, and would further be of great use for the instruction of students who at present mostly are loose upon the world with no practical knowledge of lunacy. The governing body of the Edinburgh Royal Infirmary had the suggestion under consideration not long ago, but there was a good deal of opposition and the matter has consequently been hung up for the present. The difficulty both in London and in Edinburgh is in large measure due to the survival in the public mind of the old idea that disorder of the brain stands altogether apart from other diseases, belonging to the spiritual rather than to the material order.

Cecil Rhodes, as every one knows, left the bulk of his wealth for the foundation of scholarships to be held by students at Oxford. Many people think that never was money more foolishly wasted than in the endowment of a number of sinecures which will enable young Colonials, Americans and Germans to see the manners and customs of the famous old city on the Isis where as Matthew Arnold said England's young barbarians are all at play. It may interest some of your readers, however, to learn that such as it is Rhodes's scheme is not original. It was suggested by Mr. Fothergill, a graduate of Edinburgh as long ago as 1765 "in good old colony times" when the relations between the American Colonies and the Mother Country were considerably strained. Mr. Fothergill wrote: "If we promote scholarships for Americans in our Universities, give posts and benefits in America to such Americans who have studied here, preferably to others; if the Government permits such youths as come to Europe, on account of their studies, to come over in the King's ships *gratis,* we shall still unite them more firmly. The Americans, by uniting with our own youths at the University, will diffuse a spirit of inquiry after America and its affairs; they will cement friendships on both sides which will be of more lasting benefit to both countries than all the armies that Britain can send thither." Mr. Fothergill's plan would scarcely have prevented the final separation which was part of an inevitable process of evolution; but it is interesting to note how fully he anticipated Rhodes's idea.

Sir Thomas Barlow, one of the King's physicians, recently delivered an address at the Women's Union Conference, in connection with the Church of England Temperance Society, in which he dwelt strongly on the fact that the drink habit is spreading, slowly and stealthily but surely, among the women of this country. His words referred not to social outcasts but to ladies in what is called "Society" among whom his practice lies. Sir Thomas Barlow has no belief in "drink cures." He says drunkenness starts in the first place with self-indulgence and should be treated throughout as a sin. He condemned the use of drugs, strongly advocating a moral therapeusis. He said that there prudential morality and mere material ways of dealing with the evil would not serve; specious talk of heredity and neurosis was absolutely useless. He impressed on his hearers the view that drunkenness is a moral wrong and must be treated as such. Unfortunately "moral suasion" in too many cases proves as barren of permanent results as the material ways of dealing with the evil so strongly deprecated by Sir Thomas Barlow.

Reference has several times been made to the obstinate resistance offered by a section of the medical profession to legislation for the proper training and registration of midwives. Last July an Act providing for the establishment of what will be virtually a new order of medical practitioners received the Royal assent and became law. The constitution of the board to which the administration of the Act is to be entrusted has just been announced. It shows how complete is the victory of the pro-midwives. The medical members are Dr. F. H. Champneys, representing the College of Physicians and Dr. Ward Cousins representing the College of Surgeons of London, Dr. Parker Young, representing the Society of Apothecaries, Dr. C. J. Cullingworth, representing the Incorporated Midwives' Institute and Professor Japp Sinclair of Manchester, appointed by the Lord President of the Privy Council. Of these Dr. Ward Cousins is a negligible quantity and Dr. Parker Young is professionally and politically unknown to fame. Dr. Champneys, however, is an ex-President of the Obstetrical Society and Dr. Cullingworth is one of our foremost gynecologists. Professor Sinclair has been the object of furious and unscrupulous attacks by the opponents of the bill. The Council of the British Medical Association was misled into condemning him to the flames of professional obloquy, and burnt its fingers in doing so. His appointment must therefore be regarded as an emphatic expression by the Government of its determination to make the new law a living and active reality regardless of the disapproval of the medical profession. The worst of it is that this snub has been brought upon us by the intemperate language and questionable methods of a few agitators, most of whom are of no professional or personal importance whatever. The other members of the Board are Mr. Heywood Johnstone, the Member of Parliament who piloted the measure through the House of Commons, and three ladies closely identified with the Midwives' and Nurses' Institutes.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

OBSERVATIONS ON THE PRACTICAL USE OF THE FREEZING POINTS OF BLOOD AND URINE IN DISEASES OF THE KIDNEY —ARTIFICIAL FEEDING OF CHILDREN.

O. Rumpel, at the Physicians' Society of Hamburg, Oct. 7, 1902, presented a communication on Observations of the Practical Use of the Freezing Points of Blood and Urine in Diseases of the Kidney. As an introduction, the speaker reviewed the theory and method of cyroscopy. The great constancy of the osmotic concentration of the blood makes its freezing point an uncommonly accurate physical fact. The determination of this is simple. There are only two sources of error, which may easily be avoided; viz.: first, the thermometer must be immersed only in the fluid under observation, and not touch the bottom of the glass; and second, the fluid must be kept in motion by a platinum wire until the thermometer falls, so that the amount of heat set free shall be fully measured. He has made more than 300 observations of the freezing point of blood and of urine, and divides them into the following groups: first, normal cases, with the freezing point of blood from —0.55 to —0.57 C., and that of the urine from —0.9 to —2.3 C.; the second class contains the bilateral diseases of the kidneys, as follows: 41 chronic nephritides, 15 cystites and pyelonephrites, 13 nephrolithiases, three tuberculoses of the kidneys, three cysts of the kidneys and two tumors of the kidneys. The average of these shows the freezing point of the blood to be from

—0.60 to —0.65 C. Eight of these showed it —.59 C. and six —0.66 C. The third group, which were clinically diagnosticated as neurological diseases of the kidneys, contained about 85 cases and showed practically normal range of freezing point of blood. If cryoscopy is combined with catheterism of the ureters it furnishes a good prognostic and diagnostic means of weighty character, and by means of it insufficiency of the kidneys when nephrectomy is under consideration, may easily be determined, and thus only a division and not a removal of the organ performed. As far as a post-operative insufficiency of the kidneys is concerned, through its means one should rarely see death follow any interference. Before the knowledge of this method was common, at least four deaths in about 120 patients operated on by Kümmell were attributed to post-operative insufficiency. So far as the freezing point of the urine is concerned, he states that in conjunction with analyses of the urine interesting physiological determinations are possible.

N. WASSERMAN, at the Society of Internal Medicine of Berlin, Oct. 13, 1902, read a dissertation on the Artificial Feeding of Children. He said that Bordet had, through his wonderful discoveries of the precipitins and differences in the albumin of the milk of several different animals, arrived at the fact that between the milk of women and cows there are definite biological distinctions. Upon this subject there are various conclusions to be drawn. The first point is that from the difference between the albumin of women's and cows' milk, the clincally well-known fact is established that the former is more adapted than the latter to become the continuation of the placental nourishment of the child. Very recently as good an authority as Heubner has determined, with the aid of Rubnar's method, that artificially fed children, that is, those who are brought up on cows' milk are backward in comparison with those who are fed on women's milk, although the two foods may present the same caloric value. It seems as if, in the artificially fed children, a certain amount of the energy represented in the food is lost. This loss most authorities seek to explain through the additional effort at digestion necessary in the case of cows' milk. Wasserman has turned his attention toward explaining this condition. If, in accordance with the procedure of Bordet, the serum of another species of animal is injected into the abdomen of a guinea-pig, a short time afterward it is possible to show the destruction of a very large number of bacteria, for instance, typhoid bacilli, which were injected into the same animal after the serum. If, however, the serum of the other species is not injected, then the bacteria kill the animal. The conclusion from these facts seems to be that the injection of a foreign serum has perhaps, through a kind of ferment, wrought an unusual influence. The same results are obtained not only after injections of serum, but also of various heterologous fluids, for example, milk. The presence, however, of these so-called ferments in the body produces also a loss to the animal-at-large, which shows itself chiefly in the great difference between artificially-fed and naturally-fed subjects.

SUBSTITUTION EXTRAORDINARY.

To the Editor of the MEDICAL NEWS:

DEAR SIR: My recent experience with a retail druggist in this city seems to me of such vital interest to both laymen and professionals as to demand wide publicity:

On July 15 I prescribed for one of my patients, Mr. L., "Mistura anti" and "Caps anti" formulæ, known only to myself and the druggist to whom, on account of his honesty and reliability, I am in the habit of directing my patients. The prescriptions, however, fell into the hands of a pharmacist of this city, who without even making an attempt to find out from me what those formulæ meant, dispensed something of his own, putting, however, my name on the label. For "Mistura anti" he dispensed what was subsequently found to be a mixture of alum and boracic acid, directing the patient to make his own solution and use as an injection. As the patient complained to me of intense pain after the first injection, I started an inquiry, which brought out the following very interesting facts:

1. Of the two formulæ I prescribed for Mrs. B. on July 9, viz.: *a*, "Mist. Brom.," *b*, "Ac. borici" and "Pulv. alum"; *a* is missing from the file, while *b* is there with a substituted date, 7-15-02 instead of 7-9-02, as I have it on my books, where I keep complete records of my cases.

2. Of the two prescriptions for Mr. L. (the case that caused the whole inquiry), the one "Mistura anti" is missing. The paper box containing the supposed "Mistura anti" dispensed to Mr. L. has the name Mrs. B. written on it.

To sum up briefly, the thing is this: On July 9 Mr. X. dispensed to Mrs. B. a substitution of my formula. "Mistura Brom," and, to avoid detection, destroyed the prescription. A week later when Mr. L. came with my prescription for "Mistura anti," the clever Mr. X. thought of my *b* prescription for Mrs. B. of a week ago, (it was also intended for injection), and dispensed it to him, changing the date from the 9th to the 15th, and once more destroying the to him mysterious prescription. In other words, our German pharmacist has evidently made it a practice (another physician complained of a similar experience with the same man) to substitute drugs, cheat his patrons, thus menacing the health of his patrons and the good name of their medical advisers.

Is there no law, I wonder, on the statute books of Pennsylvania to protect the public and the profession from such rascality?

PHILIP ROVNO, M.D.

526 Pine St., Philadelphia, Pa.

MEDICAL TERMS ONCE MORE.

To the Editor of the MEDICAL NEWS:

AN OPEN LETTER TO DR. L. J. LADINSKI: The title "Doctor" attached to your name gives me the right to address a word to you in the name of science.

You have, as I gather from the program of the Section on Obstetrics of the New York Academy of Medicine, read a paper on Appendectomy after Two Previous Oophorectomies.

Permit me to point out that nothing can be more unscientific than these two words "Appendectomy" and "Oophorectomy." It matters not that numerous physicians who care nothing about accuracy in the construction and use of technical terms, and who do not know better, have introduced and now use these abominable words; the fact that they are indecent, detestable, illiterate, coarse, remains the same, and this I am ready to proclaim before the whole medical profession.

Now, allow me to repeat what I have said before at different occasions, once before the Johns Hopkins University, without having been refuted.

Ectomy means castration and *nothing else,* and moreover the preposition "ec" cannot stand in the middle of a synthetic word.

If we are to judge from reading the present medical literature it would appear that our profession has become very barbarous, at least in language. Everything is castrated and the latest cruelty of this kind of which I read is the castration of "Append."

About the word Oophorectomy I have published a protest some time ago in the New York Medical Journal, which protest has been reproduced in journals of different countries, France among the others, and it has been taken seriously by the journals which quoted my remarks.

Now, allow me to say, since I have not the article at hand: Oophorectomy means in fact nothing definite, even allowing the monstrosity of placing the preposition "ec" in the middle of a synthetic word. We might translate it as "Castrating the duty on eggs" or "castrating that species of animals which bears eggs and hatches eggs."

Oophoron, as the barbarous writers who pretend to know Greek, while they know only a fragment of this language, would have us believe, does *not* mean *ovarium;* cannot mean ovarium. It is most ridiculously absurd to use oophoron as though it meant ovarium. It matters not that people outside of Greece who cannot speak Greek say it, foist this signification upon it without a shadow of warrant from the Greek language.

Ovarium is 'Ωοθήκη.

Oophoron cannot rightly be applied to ovarium and for this assertion conclusive evidence can be produced. I need only to refer to the analogous words Nekrophoros, Leophoros which indicate the bearing of something *from one place to another,* not the holding of it. However, I will not enter into philological details here but will say that I am ready to defend my assertions before the whole world in regard to the meaning of oophoron.

I wish to give this letter all publicity, for the sake of the good cause and to save the reputation of our profession for scholarliness in regard to scientific onomatology.

A. Rose.

New York, Nov. 27, 1902.

SOCIETY PROCEEDINGS.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

November 3, 1902.

Dr. H. Hurd in the Chair.

Dr. J. Whitridge Williams was elected as President of the Society for the coming year and Dr. Martin B. Tinker was reelected as Secretary.

Typhoid Spine.—Dr. McCrae showed a patient who had this interesting sequel of typhoid fever and in addition presented strange rhythmical contractions of the abdominal muscles. The patient was neurotic throughout his illness and six weeks after his temperature became normal developed the present condition. It is the seventh instance of typhoid spine in 13 years. The contractions of the abdomen suggest pulsations of the abdominal aorta but are found not to be synchronous with them. When one's hands are placed upon the abdomen they are pushed out forcibly. These rhythmical contractions which evidently take place in the recti recur from 76 to 80 times a minute. During sleep the contractions stop; a few whiffs of chloroform increase them perceptibly. The whole condition is a neurosis.

Abdominal Aneurism.—Dr. T. W. Clarke presented a case whose physical signs had led to an interesting mistake in diagnosis. When the pain first came on, five years ago, the patient was treated for rheumatism, then for neuralgia, later still for lumbago, and within the present year the diagnosis was made of renal lithiasis and the patient was operated on in another hospital. The probable reason for the incorrect diagnosis was the fact that the pain radiated into the testicle.

Dr. McCrae said it was interesting to notice in this case the systolic retraction of the intercostal spaces, as well as the pulsation in the right side of the back. He remembered a case in which a similar mistake in diagnosis was made. In the present case, the expansile tumor can be easily grasped and the pulsations are very plainly transmitted to the hand. The case seems to be a very favorable one for operation, and will therefore be put in the hands of the surgeons.

Exhibition of Pathological Specimens Illustrating Some Noteworthy Features in the Thrombosis of Vessels.—Dr. W. G. MacCallum exhibited a thoracic aneurism in which the bronchus to the left lung was compressed by the sac of the aneurism.

Another specimen was a liver from an old negro, who during life had marked swelling of the legs and abdomen. He had luetic scars in various parts of his body. The liver was not a regular hobnail liver, but was very small and irregular, there being large nodular masses along the retroperitoneal region. There was a large mass above the liver surrounding the vena cava and extending into the lungs. In the liver there were scar-like strands which caused destruction of the organ, as well as yellowish caseous-looking masses which resemble rubbery tumors. Below the liver smaller masses are seen in and about the glands, compressing the vena cava and causing thrombosis in that vessel which is just beginning to organize. The liver is markedly congested; there is a breaking down of parenchymatous cells and a new formation of connective tissue. Orchitis was present in this case.

A third specimen was from a case of mitral stenosis who during life had phenomena which gave evidence of thrombosis in various parts of the body. The popliteal and the left brachial arteries, and the left jugular vein were cord-like during the latter part of life. The patient died of cardiac insufficiency, and a few hours before death was seized with paraplegia, the legs becoming quite livid. The heart is uniformly enlarged, the tricuspid valve is contracted and calcified, the right auricle is dilated and the mitral valve also constricted so that one finger can scarcely be passed through it. There are also present aortic stenosis and insufficiency and a thrombus is seen in the left auricular appendage. The left jugular vein, as well as the subclavian, which appear as fibrous cords, are seen to be penetrated by fine canals, whose presence is the more easily recognized when the cords are squeezed. There are two possible ways in which this canalization could have occurred, either by branches from the vasa vasorum, or by a process described by Dr. Welch. He speaks of cracks occurring in the thrombus and endothelium growing in from its extremities. Both types of canalization are present here. The abdominal aorta is filled with a thrombus extending three cm. above the bifurcation, down through the iliacs and into the femorals, thus occluding the last two lumbar arteries, as well as the branches of the iliacs. The thrombosis was originally present in one of the femorals and doubtless followed an old embolus.

Embolic infarcts were present in the kidney and spleen but the origin of these could not be determined. Out of 59 cases of thrombosis described by Dr. Welch, there was mitral stenosis in 39. Experimental paraplegia has been produced in rabbits by ligating the aorta. There is also a transverse myelitis produced and in one case degeneration of the pyramidal tracts was observed. In cats and dogs the results of ligation of the aorta are not constant.

Dr. McCrae said that the thrombosis in the case with the syphilitic cirrhosis of the liver was probably not the cause of the symptoms seen during life. The presystolic murmur in the third case, shown by Dr. MacCallum, was heard over a wide area but there were no other signs of cardiac valvular lesion.

Dr. Thayer said that the tricuspid stenosis might possibly have been suspected, although this lesion quite frequently escapes attention. A presystolic murmur is not very often heard at the tricuspid area, but the diagnosis must be made from the venous engorgement and from the pulsation. In this case there was no pulmonary engorgement, nor were there any râles at the base of the lungs.

Appendicitis with Intestinal Obstruction.—Dr. R. H. Follis reported these cases: The first case was a girl fifteen years old, who was admitted on May 28 with a history of three days' illness. The attack was an ordinary one with nausea, vomiting, constipation, abdominal pain and tenderness. During the operation an abscess was found, reaching far out into the right side. The case was just the kind in which obstruction might have been suspected because of the large amount of gauze drainage. The patient did well for 48 hours when she showed symptoms of obstruction. For 24 hours we tried to move the bowels with cathartics and enemata, but failed. The pulse rose from 110 to 120, and then to 160. The patient's condition being very serious, she was again taken to the operating room and enterostomy was done. An incision was made through the left rectus, and the first loop of distended bowel which presented was brought up into the wound and opened. The peritoneal cavity was probably soiled when the bowel collapsed and it was the realization of this fact that suggested the procedure used later on. The patient now did well for 18 days and the foul-smelling discharge, which is always present in an obstruction case, was soon replaced by normal fecal discharge. After 18 days, although the fecal fistula was discharging freely, the patient had another attack of intestinal obstruction, apparently in a loop proximal to the site of the loop first opened. A third operation was done, incision being made through the right rectus. The bowel was brought up into the abdominal wound, packed around with gauze, and catgut sutures were taken passing through the intestinal wall, through the gauze and the parietal peritoneum. By a series of such sutures the bowel was held in place against the two edges of the wound. When enterostomy was done and the bowel collapsed, the peritoneal cavity was prevented by the gauze from being soiled. After each of these operations the bowels began to move per rectum within about 48 hours, evidently showing that the obstruction was due to a distension of the bowel, at least in part, and as soon as this distension was relieved the obstruction was also relieved. The patient did well for about three weeks and the fistulæ were beginning to close when after an indiscretion in diet a third obstruction developed and it became necessary to open up one of the previous wounds. Since that time the patient has had no trouble and is now perfectly well. I feel sure that if we had tried to search for the obstruction the patient would have died. I want to emphasize the fact that patients are often lost by trying to do too much for them at a time when they are very much run down and when their resistance is very poor. At such a time an enterostomy is the operation of choice and the method of performing as I have described it, is, I think, cleaner and quicker than any other method I know of, and has the further advantage that the wound heals spontaneously. In this case all the fecal fistulæ closed spontaneously within three weeks of the time they were made.

The second case was that of a boy who was sent in with a history of 12 days' acute abdominal pain and vomiting. Vomiting in appendicitis usually occurs at the beginning and is not continuous, but in this case it was marked throughout and there were paroxysms of pain from the outset. He was in very bad shape when admitted and had already been refused operation by another surgeon in the city. There was a great deal of abdominal distension, visible peristalsis, and other signs of acute obstruction so that the diagnosis of appendicitis was not made until the abscess was reached. We did not look for the appendix but simply brought a loop of bowel up into the wound and sutured it in the way that I have described, the whole operation lasting less than 20 minutes. Enterostomy was done 24 hours after the abscess had been drained. The boy made an uninterrupted recovery, his fistula and abscess-wound being closed 30 days after the operation. In this case also, if we had tried to relieve the obstruction or do anything except make an artificial anus, the patient would surely have succumbed.

On being questioned by Dr. Cullen as to what became of the appendix in such cases, Dr. Follis replied that the all-important thing was to save the patient's life at the time of operation and only to take out the appendix when it could be readily found. Patients are always advised to return in 10 or 12 months to have the appendix removed, but acute symptoms recur in comparatively few cases. Although the appendix is removed in the majority of cases, there are some cases with abscess in which it is far more important to save the patient's life at the time than to remove the appendix. Dr. Follis went on to say that there were doubtless certain cases of general peritonitis with marked distension in which this method might be used. Of course, it is not a new thing to open the bowel in general peritonitis to relieve the distension, for it is a well known fact that the prognosis in general peritonitis is graver the more distension there is. It certainly seems as if this method of opening the bowel would be more satisfactory than any other for use in cases of general peritonitis. Usually a second operation has to be done for closing the bowel but it is evident that by this method, if we can judge by two cases, the fistula closes spontaneously.

SECTION ON CLINICAL MEDICINE AND SURGERY; MEDICO-CHIRURGICAL FACULTY OF MARYLAND.

Eleventh Regular Meeting, held November 7, 1902.

Dr. I. E. Atkinson in the Chair.

Case of Congenital Malformation.—Dr. J. B. Neale showed a child, born 36 hours previously in the University of Maryland Hospital. The mother was a primipara, and had a normal labor although probably two or three weeks before term. The malformation is so unique that it seemed well to bring the child before the society while it was still alive. Below the navel there is a separation of the two halves of the anterior abdominal wall, and through this opening there is seen projecting the entire rectum, a mass about 10 cm. long with the anal opening free in the air; meconium can be expressed from this opening and vermicular movements are present. Below and beside the umbilical aperture are two other masses, probably projecting bowel. Below these is the bladder, inside out, weeping urine all the time, and near it, what are evidently openings into the genital tract. The urethra is plainly visible. In addition, therefore, to the presence of omphalocele, there is a reversal in the arrangements of the parts, the rectum being in front of the bladder and genitalia. Dr. Martin has seen the child and refuses to operate at present; if the child lives a plastic operation may be undertaken later. There is no anal aperture at all in the usual site. Following the classification of Hirst and Piersol, in their "Human Monstrosities," the case must evidently be placed in the group "Celosoma" and is probably one of the species "Aspalosoma." There is present a lack of development affecting the somatopleure layer of the blastodermic membrane, or in ordinary language, a failure of the two layers of the mesoderm to unite.

Dr. Ruhräh showed a pathological specimen taken from a child three and a half years old which during life had been an absolute idiot, neither talking nor walking. The child died of pneumonia and meningitis. It had been sick one week. During life it was supposed to have been a male, having a penis, scrotum and testicles, which could be plainly felt in the inguinal canal. At the autopsy there were found, in addition to the male organs described, a perfect uterus, tubes, ovaries and what was evidently a rudimentary vagina.

The observation of this case reminded Dr. Ruhräh of a case which he saw several years ago, the history of which he had with him. The patient was a male with a marked degree of hypospadias, so that he looked like a hermaphrodite. Below the small penis was a sac which could be used for a vagina. There were fully developed breasts and the patient said that he felt sometimes like a girl and sometimes like a boy.

A Sublingual Cyst in an Infant.—Dr. Amberg. This affection is most frequent in southern Italy, very few cases having been reported elsewhere.

The present case is that of an American baby, seven months old, who was brought to the dispensary of The Johns Hopkins Hospital because of a tumor below the tongue. Four other children of the family are entirely well and the patient himself is a healthy baby, in spite of the excessive diet which he has received. No glands are palpable. The growth measures 1 x 1.5 cm. and rises 5 mm. above the surface. It is flat and its surface is quite rough; the color is bluish-white and the center of the growth is depressed. It is said to have started when the lower incisors made their appearance and to have bled at intervals. It bled freely when silver nitrate was applied to the depression. The case was referred to Dr. Iglehart, who easily removed the growth.

Pandolfi, in 1875, was the first to describe this condition. Later on Riga, after whom the disease is named, thought that it caused wasting. Some have described the growth as a papilloma, others as a granuloma, and still others as a fibroma. Hypertrophy of the epithelium is a marked feature and we are therefore inclined to call it a fibroma. The clinical picture is something like that of a tumor described by Calari and Philipson. Some have thought the condition infectious and others have thought it hereditary.

A Case of Multiple Stricture in the Upper Part of the Jejunum.—Dr. Harrison. The case is that of a male, thirty-six years old, married, a painter by trade. He had pneumonia when eighteen and syphilis at nineteen, for which he was treated for five years. He has twice had lead colic, and gonorrhea several times. He uses whisky moderately. Nine months ago the patient began to have pains in the stomach and vomited after eating. There was tenderness and soreness in the upper abdomen. He entered the City Hospital June 27, 1902, when he was much emaciated and had edema of the extremities. On the medical side the diagnosis was made of abdominal neurasthenia and cirrhosis of the liver. He gradually grew weaker, the movements of his bowels were very scanty and the vomitus was quite yellow. Peristaltic waves were seen passing from left to right. No evidences of complete obstruction were observed.

On July 21 an exploratory incision was made with the diagnosis in mind of possible gastric ulcer or tuberculous peritonitis. The patient's temperature was below 98° F. and his pulse was 100. Before operation it was noted that the epigastrium was boggy. The stomach was found to be small and pale, the liver very small, pale and flabby, the gall-bladder was not distended, nor did it contain any stones. The duodenum was congested and distended. Below the stomach and omentum was found a loop of jejunum divided by three milk-white constrictions, into masses that looked like bologna-sausages. The two upper constrictions had a lumen of the diameter of a pencil, the lower had a lumen of a diameter of half an inch. The first constriction was three inches from the lower end of the duodenum, the second three inches below that, and the third eight inches further on. The intestine at this point was filled with fluid, and although the constrictions were not absolutely impermeable, fluid was only passed under high pressure. There were no distended coils below. The choice of operations lay between an end-to-end anastomosis, after removal of 24 inches of bowel, and lateral anastomosis with partial physiological exclusion. The latter was chosen.

The patient left the table with a temperature of 96.5° F. and a pulse of 124. There were no setbacks for 10 days but at this time a soft-boiled egg caused some vomiting. The wound healed per primum. The bowels moved on the second day and thereafter regularly. The pulse and temperature were normal until the fourteenth day, when they began to rise slightly. On the eighteenth day the temperature was 101.4° F. there being at the same time some diarrhea. On the twenty-ninth day the temperature was again normal. Forty days after the operation the patient was greatly increased in strength and on the sixtieth day left the hospital quite well.

Multiple annular constrictions high up in the small intestine are probably always due to healed tuberculosis. Some have thought syphilis a cause, but no such case has ever been detailed. Cicatricial contractions are common in the ileocecal valve but are rare in the jejunum. Matas reported a case where the strictures were three feet lower down in the bowel.

The literature on the subject is given in full in Senn's "Practical Surgery," Hemmeter's "Diseases of the Intestines," and in an article by Matas in the Philadelphia Medical Journal for July 9, 1898.

Dr. Campbell. The patient had a tuberculous process at the apex of his right lung. Examination of his stomach contents showed the presence of considerable HCl. The case resembles one of Dr. Tiffany's, the patient being an Italian woman who vomited after eating and had a great deal of pain in her side. At the operation there were found adhesions between the spleen and the stomach, causing stricture of the duodenum.

Dr. Atkinson. In the October Medical Journal for 1896, Robinson shows that in stricture of the intestine there is mapping out of the coils during the time of greatest peristalsis. In a case which I saw at The Johns Hopkins Hospital the colon could be seen distinctly mapped out until the peristalsis overcame the stricture and forced the contents of the bowel past it.

Dr. O'Donovan. I should like to ask two questions.

First, why lateral anastomosis was chosen. In two cases which I saw operated upon, a V-shaped portion of the mesentery was removed with the bowel, and an end-to-end anastomosis was done; both patients died. Second, why Dr. Harrison is so sure as to the etiology. In the two cases which I saw there was certainly no tuberculosis. In one of them there had been a long continued dysentery, which was finally recovered from.

Dr. Harrison said in conclusion that the picture was different when the obstruction was lower down, there being no mapping out of the intestinal coils when the strictures were as high up as in the present case. Lateral anastomosis, he said, caused less shock, than an end-to-end anastomosis. As to the etiology, all cases of stricture as high up in the intestine as this one, were undoubtedly tuberculous.

Dr. Pleasants. The chief objection to an end-to-end anastomosis is the degree of injury to a greater number of blood vessels, with the degeneration which would surely follow.

A Case of Laryngismus Stridulus.—Dr. Fitzhugh. The patient was a child 14 months old. He retired at night perfectly well but awoke at 3 A.M. with dyspnea and convulsions and remained unconscious until death. Family History. There was insanity in some of the uncles. Past History. Born at term. Weaned at five months on account of mother becoming pregnant. Convulsions at two months. Rickets at 10 months. Present illness. The child had eaten potato salad and coffee, during the day, and had fried trout for supper. It slept until midnight and then became restless and started to hold its breath in spells. This continued until daybreak when cyanosis was noted. The Doctor was called and thought the child had croup.

When I first saw the child it was breathing uneasily and had a temperature of 99° F. Suddenly the respiration stopped. After three seconds it began to breathe again. There were tonic spasms of the feet and hands and clonic spasms of the face. After a minute the child became quieter. The child was unconscious all the time. This series of events was repeated, the order being something as follows: First the stopping of respiration, then a returning of the same and frequent violent convulsions. Intubation was done and quieted the child for a time, but the trouble commenced again, showing that there were spasms of the other respiratory muscles. The child died at 1 P.M.

Autopsy was done by Dr. Ruhräh. The abdominal cavity was very foul smelling, there being a great deal of decomposing food in the small intestine. Thoracic Cavity. The thymus was found to be very large, extending from the thyroid to the aorta and being attached to the innominate veins. It was evidently attached to the sternum also, for on removing these bands the glands projected considerably.

Laryngismus stridulus is a spasm of the muscles of the larynx, purely neurotic. In severe cases there are generally convulsions. It usually occurs in rickety children under two years of age, in whom nervous instability is a marked feature. The attack may be brought on by a fit of anger. In other cases it is caused by stimulation of peripheral nerves, as in cranio-tabes, or when the enlarged glands or the thymus press upon the contiguous nerves.

The thymus may also cause the condition by changes in metabolism. In many cases the attack must be brought on by toxins, as in the present case. The prognosis is good unless there be general convulsions. Death is usually the result of apnea, cerebellar congestion, or exhaustion. The treatment consists of high enemata, croton oil, and small doses of atropine given by the hypodermic.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of November 5, 1902,

The President, Alexander Lambert, M.D., in the Chair.

Cases Illustrating Difficulties of Diagnosis and Treatment.—Dr. S. Alexander presented the reports of these cases. The first case was that of a man of fifty-three years, who had been referred to him last year because of frequent and painful urination and an intermittent hematuria of three months' duration. Two years and a half previously this frequent urination had been first noted, but it was only during the past three months that it had seriously interfered with his business. He had passed small calculi through the urethra on two previous occasions, but these attacks were not attended with pain. His urine had remained cloudy ever since that time. The hemorrhage occurred almost always at the end of urination, although occasionally all of the urine was bloody. The pain was at the end of urination, and lasted about one minute. The pain and hemorrhage were increased by exercise, but not the frequency of urination. There was no family history pointing to tubercle or cancer or syphilitic infection. An application for life insurance had been rejected five years before because of albuminuria, but the latter had been only temporary. These symptoms suggested: (1) Stone in the bladder; (2) an enlarged prostate complicated by stone; (3) stone in the kidney, and (4) a possible tumor of the bladder. Examination showed that the patient passed three ounces of cloudy urine without blood or pain. Immediately afterward 2½ ounces of urine were withdrawn by means of a soft catheter. The normal capacity of the bladder was estimated to be about four ounces. No calculus was detected in the bladder on examining with a Thompson searcher. Shortly after the examination there was a severe hemorrhage lasting 24 hours. On account of the enlargement of the prostate and the deviation of the sound to the left it was thought that some of the symptoms might be due to prostatic enlargement. Examination of the urine showed pus and hyaline casts. Thinking there might be a calculus in the kidney an X-ray examination was made by Dr. A. B. Johnson, but no calculus was revealed. The urinary analysis made after cystoscopic examination showed no pus casts, and an excess of albumin over that accounted for by the blood and pus. One per cent. of sugar was found at a subsequent examination. The reports of several analysts were conflicting, some finding sugar and casts and albumin, and others finding no sugar and only a small quantity of albumin and a fair quantity of urea. A second cystoscopic examination revealed a growth from the right lateral middle segment of the bladder. The edges were clearly defined and covered with small villi, while the center contained blood clots. The urinary analysis after this examination showed an entire absence of casts. On November 25 a cauliflower growth was removed in two pieces by the suprapubic operation. On the sixth day, after having a stool, the patient became aphasic and had complete right hemiplegia. After the first week he began to regain power in the leg and arm, and on November 30 he went home. When seen in January the wound had closed, the urine was clear and he could empty the bladder completely, but he was absolutely aphasic. The case was reported to emphasize the fact that too much reliance was placed upon the findings of the clinical pathologist at times, who, though an expert in laboratory work, could not have a full knowledge of the clinical aspect.

Calculus.—Two cases of calculus were then reported. The first patient complained of complete retention of urine for four months, and of more or less retention for 10 years. The pain had developed with the occurrence of complete retention, and was experienced both before and after urination, and was increased by exercise. The searcher detected a stone lying on the left side of the bladder. The patient experienced severe pain on the withdrawal of the searcher, which was explained by the fact that the stone had been turned over by the instrument, and it was a matter of experience that when a stone was dislodged from its usual position it gave rise to pain. The man, although seventy-nine years of age and not in very good condition, was operated upon and the stone removed on September 13. A week later he went home. The stone was found to be composed of oxalate of lime; it, therefore, must have come from the kidney and must have been the cause of the complete retention four months before. This case was contrasted with another occurring in a man of seventy years. The patient was operated upon on July 14, and in a few days returned home. Here he had not expected a phosphatic stone, nevertheless this was the composition of the calculus removed.

Dr. Alexander said he had reported these cases to show the importance of the examination of the urine being made by the clinical examiner or under his immediate direction, so that he would be in a position to properly interpret the findings of the microscope. He would like to have the hemiplegia and aphasia accounted for in the case reported, as well as the rapid clearing up of the former.

Dr. R. J. Carlisle said that it did not seem at all improbable that the diagnosis of cerebral hemorrhage was correct in view of the age of the patient, the hardening of the arteries and the condition of the kidneys. The hemorrhage caused a marked change in the affected brain area, largely by compression, and this explained the clearing up of the hemiplegia.

Dr. Lambert thought a contraction of a local softening would better explain the condition than a hemorrhage. Probably a small artery became contracted and occluded in one branch, thus causing local softening of the brain, but not hemorrhage.

Dr. C. E. Quimby said that some years ago he had seen a case beginning with a very slight paralysis of one hand. During the night the patient became almost aphasic, yet by the afternoon of the same day he was able to talk quite well. The second night the aphasia returned again, and only partially cleared up. On the third night there was complete paralysis, which cleared up, leaving an aphasia which lasted for years. Such cases seemed to be due to a slowing up of the circulation at night.

Dr. Alexander called attention to the fact that the patient's temperature became elevated and remained so for two or three days, or until this attack of hemiplegia came on. When this began to clear up the temperature rapidly fell. It occurred to him that there might have been a slight hemorrhage affecting the speech center, and that the other symptoms might have been the result of septic toxemia.

Cases of Ectopic Gestation.—Dr. A. Brothers presented speciments from three cases of ectopic gestation. The first patient was twenty-three years old, and had never before been pregnant. She had been passing fluid and clotted blood from the vagina for 18 days, and for a few days had had fainting spells and colicky pains. A vaginal examination showed a movable and tender mass in the left fornix. On June 13 laparotomy was performed and the peritoneal cavity found to contain considerable blood. The rupture of the tube was intraperitoneal. The interesting feature was the pain, which was located on one side while the tumor was found on the other. He had met with this in several other cases. The second case was that of a woman of thirty-five years who had borne four children and had had one abortion before the present pregnancy. She was operated upon on August 6. The chief point of interest was that the patient expelled a mass which was supposed to be an ordinary ovum, and she was accordingly treated as if suffering from a miscarriage until she came under his observation and the true condition was recognized. The next case was that of a woman of twenty-four, who had been married two years. A vaginal examination showed a sensitive mass posteriorly. She was operated upon on August 25. All of these cases made uneventful recoveries.

Cyst of the Round Ligament.—Dr. Brothers also presented a very rare specimen, a cyst of the round ligament. This was the first specimen of the kind he had ever seen. This young girl stated that shortly after a fall or blow she began to have pain in one inguinal region, and examination showed a tumor. On operating, instead of a solid tumor there was found a cystic tumor over the external ring, which could be followed for some distance into the inguinal canal. It was tied off and removed.

Dr. W. Gill Wylie said that the most difficult feature of these cases of ectopic gestation was the making of a correct diagnosis. The method of treatment was now so well known that there was nothing to discuss. Abnormal ovulation was apt to occur in young women who were rather imperfectly developed. He was sure that the majority of cases of macrocystic ovaries were really examples of functional disturbance of ovulation. At one time he used to think that when an ovarian cyst became as large as a small orange it should be removed, but he would hesitate now unless he felt sure that this cyst was something more than the result of a functional disturbance.

Dr. H. C. Coe emphasized the value of exploratory vaginal section. If free blood were found on opening Douglas's pouch it was ordinarily proper to open the abdomen. Sometimes, however, one was misled even here, as shown by a recent experience. One of these cases proved to be an ovarian abscess, and in another it was found on laparotomy that the tumor which presented at the posterior incision was really an ectopic gestation. In a certain number of cases no chorionic villi could be found.

Dr. Brothers asked if any of those present had met with any cyst of the round ligament, such as he had just presented. He heartily indorsed what Dr. Wylie had said about the conservative treatment of ovarian cysts. The pain was not so much due to the cysts as to the tension of the ovary, and by splitting the capsule of the ovary he had repeatedly succeeded in curing such patients.

Remarks on One of the Complications of Anesthesia.—Dr. Thomas L. Bennett read this paper, which will appear in full in the Medical News.

Dr. W. Gill Wylie asked the author if he had noted any difference in the gas obtained in this country and in England with regard to irritation of the mucous membranes, why it was that some people were more troubled with mucus when the gas was used than with ether.

Dr. Bennett said he believed there was absolutely no difference in the nitrous oxide supplied from England and that in this country. It was supplied in cylinders in the liquefied form, and it must be absolutely pure, otherwise it could not be liquefied. Furthermore the gas had absolutely no irritating properties on the mucous membranes; whatever excess of mucus followed its administration he believed was chiefly the result of a vasomotor disturbance, due probably to the marked asphyxia which complicates the anesthesia. Where gas was followed by ether, the excess of mucus was probably due to a too rapid administration of the ether. It was necessary to change rather rapidly, but it could be done with moderation. Where the anesthesia by gas was complete, and the transition was made gradually, this trouble was not usually observed.

Dr. Parker Syms thought the principal trouble experienced in etherization was the use of a too-concentrated vapor. When the old-fashioned towel cones were used, if the administration were begun with a concentrated ether vapor it was often impossible to "clear up" the patient during the whole administration.

Dr. W. J. Chandler asked if Dr. Bennett had observed any greater tendency to hemorrhage during operations following the use of ether preceded by gas, and also whether the pulmonary disturbance which often arose from ether was any more frequent.

Dr. Bennett said that the administration of gas itself caused more hemorrhage than the administration of ether, and this was true whether the gas was used alone or with oxygen. This was due to a dilatation of the blood vessels. He had not noted any greater tendency to pulmonary disturbance from gas and ether than from ether alone, and he was disposed to think it should be less if proper care were taken to keep the inhaler strictly clean and antiseptic.

Dr. Syms asked just what importance Dr. Bennett attached to the examination of the urine as a preliminary to anesthetization.

Dr. Bennett said that while he believed it was a matter of common prudence to examine the urine before the administration of an anesthetic, he did not think it was absolutely necessary or that great good resulted from this practice. He had administered anesthetics more than 15,000 times, and he had never seen a patient die from kidney disturbance where the fatal result could not be explained by sepsis or some other condition. In some cases he had seen general edema and slight uremic symptoms develop in persons known to be suffering at the time from Bright's disease. It was true that the old method of soaking the patient with ether seemed to cause death from disturbance of the kidney, but this old method was practically discarded. The urine should be examined, however, because it served as a guide in the selection of the anesthetic; yet he felt compelled to say that in many recent anesthetizations of persons known to have renal disease, the patients stood the ether remarkably well. If the kidney lesions were latent and without symptoms he did not believe the proper administration of the anesthetic could damage such a kidney seriously.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting November 4, 1902.

The President, Joseph Collins, M.D., in the Chair.

Successful Laminectomy for Spinal Cord Tumor.—Dr. Pearce Bailey presented a man who had been referred to in a communication to this society made by Dr. McCosh. The operation had been done by Dr. McCosh in May, 1900. In December, 1898, when thirty-nine years of age, the illness began with sharp, shooting and intermittent pain in the leg. It extended from the sacral region down the posterior surface of the limb to the knee. He did not work from November, 1899, until he came under observation in May, 1900. At that time he was suffering intensely and could only walk with difficulty even with the aid of a cane. The pain affected the left lumbar region, the back and the front of the thigh, although previously it had been confined to the sciatic distribution. Examination showed an atrophy of the left leg with weakness and diminution of the knee-jerk on that side. There was very slight anesthesia over the area corresponding to the lower lumbar distribution, and also on the front of the thigh. There was some difficulty in passing urine. The anesthesia was considered very suggestive of tumor, involving as it did the anterior surface of the thigh. Laminectomy, involving the eleventh dorsal and down to the second lumbar vertebra, was done, and disclosed a bluish tumor which was removed. The result of the microscopical examination left it uncertain whether the tumor was a small cell sarcoma or a mass of fibrous or granulation tissue, but the subsequent history pointed to the latter diagnosis as being correct. The man was able to continue at his usual occupation, which involved a good deal of muscular exertion, and experienced no trouble from the back, despite the laminectomy. Both knee-jerks were present now, and the anesthesia had disappeared from the front of the thigh.

Osteosarcoma of the Spinal Column; Treatment with Coley's Fluid.—Dr. Joseph Fraenkel presented a young man who had been well up to three years and a half ago, when he was struck in the back. For the next six months he was able to continue at work, but then the pain in the back became severe. When seen by Dr. Abrahamson a diagnosis of Pott's disease was made, and this was confirmed by Dr. Gibney, and the patient was put in a plaster of Paris jacket. About a year later there was total paraplegia. He was then admitted to the Montefiore Home. There was absolute motor paralysis of both lower extremities with absence of the tendon reflexes. There was an area of anesthesia about the size of a dollar in the anal region. There was no tenderness, and no external evidence of disease of the spinal column. Three or four months later a projection developed, which was most marked at the tenth dorsal vertebra. Exploratory puncture revealed no pus. Two weeks later a large swelling appeared on either side of the vertebral column. An exploratory operation showed the tumor to be solid, and a portion was excised for examination. Dr. Harlow Brooks reported the growth to be a highly vascular sarcoma. Injections of Coley's fluid were begun on Feb. 18, 1902, though some improvement had been noted before this time. The treatment was continued up to May 15. At times the reactions were quite violent. After stopping the treatment the patient's general condition improved markedly, and the tumor diminished in size and became harder.

A Case for Diagnosis.—Dr. W. B. Noyes presented a man of twenty-six years, who fell three days previously from a building while at work. When seen yesterday he was walking on his tip-toes with the aid of crutches. Examination showed no sensory changes and no disturbance of bladder or rectum, and vision was normal. The reflexes were all increased. The case was presented for diagnosis. He looked upon it as hysteria. although he had thought of a slight hemorrhage in the upper part of the pons.

Dr. M. G. Schlapp said that the case suggested concussion of the spinal cord because of the spastic condition of the muscles that had been observed experimentally after injury to the cord.

Subcortical Tumor; Operation.—Dr. M. G. Schlapp presented a man who had been successfully operated upon for brain tumor. He had come to the clinic at the Presbyterian Hospital in the middle of July with the fingers paralyzed in a claw position. There was paresis of the face; ankle clonus and increased knee-jerk were present; there was no disturbance of the tactile sense. The condition began three years ago with a sudden convulsion lasting about half an hour. After about one week the patient developed Jacksonian epilepsy, and the attacks recurred about every three months.

There was no history of congenital syphilis. The only history of injury was of being struck on the head by a barrel ten years before. A diagnosis of subcortical tumor was made. Dr. George Woolsey found on operation a cyst, about three inches in diameter, within which and adherent to its wall was a tumor. The latter was peeled out easily, and on examination, proved to be a fibroma. The patient's condition had improved considerably since that time.

Dr. B. Sachs said he had reported some years ago a case of large tumor developing from the wall of a cyst, an occurrence which he did not think was very uncommon. It was probable that the tumor had developed in the wall of an old congenital cyst.

A Tumor Formation in the Region of the Coccyx.—Dr. I. Abrahamson presented a child of one month with a tumor in the region of the coccyx, which had been noticed immediately after birth. There was no wasting and the reflexes of the lower extremities were normal. The tumor was situated at the extreme end of the coccyx, and the skin was freely movable over the tumor. There was no cleft in the vertebral column and no pulsation. The tumor appeared, on rectal palpation, to lie between the rectum and coccyx. Only on violent crying did the tension of the tumor vary. It was certainly not a spina bifida.

Dr. Robert Abbé said that it appeared to belong to the presacral tumors—really fetal remains, innocent in nature, though sometimes reaching a great size. They were easily removed, but some of these tumors had been known to shrink and almost disappear spontaneously.

A Specimen of Meningocele.—Dr. M. G. Schlapp presented the brain of a child which lived three days, and died from some unknown cause. The brain showed a meningocele with almost complete hyperplasia of the cerebellum. There was almost complete absence of the pons. It seemed as though the lesion had extended from the third primitive vesicle from which the cerebellum is formed.

Discussion on Spinal Cord Tumors.—Dr. Joseph Collins opened the discussion with a paper dealing with the symptomatology and operability of these tumors. He had collected 70 cases as a basis for his statements. These tumors, he said, were far more susceptible of surgical treatment than tumors of the brain; nevertheless the majority of spinal tumors proved fatal. There were four reasons for this, viz.: (1) The inability to diagnosticate and localize these tumors; (2) the nature and extent of these growths; (3) the great danger to life of the operations for their removal, and (4) the inability of securing the patient's consent to operation at a period when such treatment might prove successful. It must be admited that the clinical picture presented by such cases was not that given in our books as indicative of spinal cord tumors. A fibroma would give rise to symptoms of as great severity as would a most extensive sarcoma. It was much more important to diagnosticate a tumor in the lower part of the dorsal region than to localize it at a single level—in other words, it was much more important to diagnose a tumor of the spinal cord than the structure from which it springs. If the location of the tumor were determined within from four to six inches he thought it would be near enough for the purposes of the surgeon. The favorite location of these tumors was in the upper and lower ends of the dorsal region. In the 70 cases that he had gathered from the literature, 35 were from the dorsal region, 15 from the cervical, 13 from the lumbar and sacral and 7 were of widespread distribution; in other words, in 50 per cent. of the cases they were in the dorsal region. In many cases reported the pain was by no means characteristic, and in some cases it was not even a prominent symptom, as had been formerly supposed. From his personal experience, and a review of the literature, priapism was an uncommon symptom.

The speaker then reported a case occurring in a man, first seen in September, 1901. Four months previously he had begun to complain of pain in the abdomen, apparently due to flatulent dyspepsia, and relieved when digestion was improved and the bowels regulated. About this time stiffness of the right leg began. Examination showed a Brown-Sequard paralysis on the left side extending above Poupart's ligament. A diagnosis of spinal cord tumor was made, and an operation urged, but not agreed to until about nine months later. He was then in a pitiable condition, and was taken into hospital. The tumor was located by Dr. Abrahamson at the tenth dorsal vertebra, and at the operation, done by Dr. Samuel Lloyd, the growth was found at this point. The patient recovered from the operation, and had since then steadily improved although the long delay in operating precluded the possibility of a cure. The second case was that of a young girl, who became ill with what was supposed to be pneumonia in December, 1898. She remained in hospital over three months, and the following summer the diagnosis of Pott's disease was made at another hospital. The following autumn, on admission to the City Hospital, she was completely paraplegic, and had enormous bed-sores. Subsequently she died in the Montefiore Home, and the autopsy revealed a sarcoma at the level of the seventh dorsal segment. In 70 cases collected surgical operation had been undertaken in 30, with a successful result in 12, partial success in 8 and unsuccessful in 10 cases. Of the 10 unsuccessful cases, death occurred in four cases from sepsis and septic meningitis, while in four others there were collapse, exhaustion, shock and hemorrhage. In 21 cases the nature of the tumor was stated. Of these 21, four were fibromata, 12 were sarcomata, three were endotheliomata and one was a myolipoma. According to the records, 44 of the 70 cases might have been operated upon. Fourteen cases gave autopsy records which indicated that they could not have been operable.

Report of a Case of Spinal Cord Tumor Operated Upon.—Dr. Joseph Fraenkel reported this case. The patient was a woman of forty years. Three years and a half before coming under his observation she began to have slight pain in the right hypogastric region, and some time later in the buttock on the same side. Still later a painful area developed in the perineum. After all sorts of treatment she came under his care. At that time the right lower extremity was flexed, and on attempting to put her on her back it increased the pain in the areas referred to. There was retention of urine and obstinate constipation. The right knee-jerk was absent, while the left jerk was normal. Both plantar reflexes were absent. There was a curious trophic edema of the right buttock. The diagnosis of spinal cord tumor was made, situated in the cauda equina. The first nerve implicated must have been the iliohypogastric nerve, explaining the first area of pain. The patient was operated upon last April in the New York Hospital by Dr. Frank Hartley, and the patient reacted with difficulty. A tumor was found between the strands of the right half of the cauda. It was a reddish, pultaceous mass, which proved on microscopical examination to be a fibrosarcoma. Certain symptoms improved after the operation, but the patient died about two months later.

Dr. I. Abrahamson reported a like case. The patient was a man of sixty years in whom the first symptoms had developed in February, 1900. The first symptom complained of was a coldness and numbness in the fourth and fifth toes ot the left foot at night. Later, the right foot and leg were similarly affected. On March 15, 1902, he first came under the speaker's observation. On admission to the Montefiore Home, May 12, 1902, there were weakness and atrophy, most marked on the right side. The extremities were flaccid, with some tendency to contracture and a reaction of degeneration. The thighs were flexed, adducted and inwardly rotated. The knee-jerks were lively. There was total loss of voluntary power in both lower extremities. There was a point of hyperesthesia in the right superspinatus region. There was much diversity of opinion as to whether it was extra-medullary or intra-medullary. His own diagnosis was a tumor of the spinal cord at the level of about the sixth dorsal vertebra, and this was confirmed at the operation. Unfortunately, secondary infection occurred, and the patient died as a result of this, three weeks after the operation.

Dr. M. Allen Starr said that in his paper, read before this society in 1895, he had collected from autopsy records 123 cases of spinal cord tumor. Out of this number there were 100 with sufficiently accurate records to allow of the statement that in 75 per cent. of the cases surgical interference should prove successful. Since that time Bruns had published an excellent article, and Schlesinger still more recently had published a paper containing 400 cases of spinal cord tumor. Of this large number there were apparently about 60 per cent. which were operable. Schlesinger's statistics showed that over one-fourth of these cases were sarcomata, whereas in his own paper most of the cases seemed to be sarcoma or fibroma. Of Schlesinger's cases 64 were tuberculous, 44 were cysts, 33 were fibromata, 28 were gummata and 20 were gliomata. The speaker said he had seen 101 brain tumors and 10 spinal cord tumors. Of his 10 cases of spinal cord tumor, only six had been operated upon. Two of the remainder were gummata with distinct Brown-Sequard symptoms, and subsided gradually under antispecific treatment. The other two had not been operated upon because the diagnosis had not been made early enough and with sufficient accuracy, and the autopsies showed in both that the operation would have been unsuccessful. Of the six patients operated upon, all died; two of meningitis, two of bedsores and two of collapse. Dr. Pearce Bailey was, therefore, to be congratulated upon the great success attained in the case he had presented to the society this evening. He would insist upon the absolute necessity of early diagnosis and early operation, a statement which had been fully borne out by the published experience of Dr. McCosh. Although Dr. Collins had called attention to the unreliability of pain as a symptom, it should be noted that in five out of the six cases reported here this evening, pain had been a rather prominent feature. Moreover in Schlesinger's cases pain was a prominent symptom. He did not see just how the differential diagnosis from meningomyelitis could be made unless pain were present. Schlesinger had also called attention to priapism as one of the common symptoms indicative of spinal cord irritation.

Dr. B. Sachs said that a number of years ago he had expressed himself as being in favor of early interference in these cases of spinal cord tumors, and his further experience had only strengthened this opinion. Reference was made to two of his cases, one operated upon two years, and the other three years ago, both of which were doing well. He would, therefore, insist that operative interference should be urged just as soon as the diagnosis had been made. He agreed with Dr. Collins that too much prominence had been given to the question of localization of spinal cord tumors. An important and significant fact in the history of these cases was that the affection remained unilateral for a very considerable time, and when it became bilateral the symptoms of affection of both sides quickly became apparent. In those cases in which the symptoms were either sensory or motor root symptoms, and in which all of the severer spinal cord symptoms remain in abeyance for a long time, it was probable that the neoplasm was extra-dural. A rather sudden development of general myelitic symptoms following upon symptoms which have been unilateral for a considerable time, pointed very strongly to spinal cord tumor.

Dr. Walton, of Boston, said that both the paper and the discussion emphasized the comparatively large proportion of operable cases of spinal cord tumors as compared with tumors of the brain. If neurologists gave more attention to the possibility of the presence of spinal cord tumors the diagnosis would more often be made at an early stage. He would agree with Dr. Collins that pain was, to say the least, not an essential symptom. In this connection he presented specimens from two cases. One was a case of syringomyelia with pressure on the posterior roots, in which there was no history of pain. The other case was a carcinoma pressing upon and destroying the roots on one side, and also without pain. Dr. Walton also showed a longitudinal section of a fibroma that had been removed by Dr. Warren with great ease. In this last case the pain was excruciating. He said that Dr. Collins' statistics and their discussion emphasized the large proportion of operable spinal tumors and the large percentage of benefit from operation upon such tumors. Such considerations should prevent us from erring on the conservative side when the diagnosis of tumor had been established. It was to be hoped that when we formed the habit of including this possibility in every case of eliminative diagnosis tumors would be more frequently recognized at an early stage, when operation promised the most. That this habit was not established fifteen years ago was illustrated by a case at that time under his care, which was seen by so distinguished authorities as Charcot and Seguin, neither of whom suggested the possibility of tumor, both regarding the case as one of myelitis, and recommending such treatment as the cautery, ergot and strychnine. In 1892 Dr. Putnam, under whose care the patient had come, recognized the lesion as a tumor, and the case had been twice operated upon, once by Dr. Keene and once by Dr. Warren, with beneficial results though not cure. That pain was by no means an essential symptom even when the posterior nerve roots had become involved in new growth, was illustrated by this specimen of intra-dural carcinoma, which had completely destroyed the posterior nerve roots of one side in the cervical region. The case would shortly be published by Drs. Taylor and Waterman. There was no history of pain during the onset of this lesion. The clinical history closely resembled that of the case reported to-night by Dr. Abrahamson, *i.e.*, atrophic paralysis of the upper, with spastic condition of the lower extremity. Dr. Collins had alluded to the fact that fibromata might cause more pain than tumors of this class, a fact illustrated by the case Dr. Putnam had reported, in which Dr. Warren removed a fibroma lying free within the dura, a longitudinal section of which, from the laboratory of Dr. Taylor, was shown. In this case violent pain, specially including abdominal pain, was the prominent feature. In the microscopical specimens exhibited this evening were included a case of cysticercus in the substance of the cervical spinal cord in a case of tabes. He had happened upon this while working with Strümpell in 1880. There were no symptoms referable to the cysticercus.

Dr. Robert Abbé said that he had seen that very day the patient reported to this society last year, and upon whom he had reported three years ago. The patient was steadily progressing, and there was nothing to indicate any active disease. The tumor was a large one, and at the time of operation involved the cord, so that it was necessary to curette some of the cord away. There had been no increase in any of the cord symptoms. The arms, which were formerly paralyzed, could now be raised to the head. In sarcomata of the spinal cord he thought the growth was slow as compared with sarcomata in other parts of the body. Sometimes a tumor of the spinal cord might grow for a long time and yet give rise quite suddenly to symptoms. All of the cases of spinal cord tumors that he had had, had been among males. The pain that he had seen in these patients had been distinctly of a rheumatic rather than of a neuralgic type. He did not quite understand why so many of the reported cases had proved fatal from infection or from shock, because it seemed to him that the operation should be conducted rapidly and with considerable safety. The hemorrhage in these cases was apt to be almost wholly venous, and practically it could be only controlled by pressure. A little strip of gauze pressed into the hollows as the laminæ were opened up would control the hemorrhage, and would generally prevent any great degree of shock. The dura should be opened at once if the tumor were not encountered, and should be split up for any distance necessary, and subsequently sutured with fine catgut. The escape of fluid did not seem to him of special importance; the leakage had always been slight, and had lasted only eight or 10 days. The infection of these wounds in the past he thought had been largely due to the use of impure catgut.

Dr. Collins explained that he had not meant to say that pain was not an important diagnostic symptom, but he wished to call attention to the fact that pain was not by any means characteristic as would appear from the descriptions given in the books.

BOOK REVIEWS.

Progressive Medicine. Vol. III., September, 1902. Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Blood Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. By Drs. **William Ewart, William S. Gottheil, William G. Spiller** and **Richard C. Norris.** Lea Brothers & Co., New York and Philadelphia.

Progressive Medicine still remains the ideal publication of its kind and the present volume is fully the equal of its predecessors. While the reviewer sees many sins of omission in this retrospect of the year's work, yet this is mostly on less important topics. One feature strikes the captious critic. In the opening chapters on diseases of the thorax there seems to be a dearth of references to foreign literature and further those that are there are taken from abstracts from domestic journals. This seems an indication that the author has not gone to headquarters for much of his information and then has only seen through borrowed glasses. This shows in a lack of authoritative handling of the subject-matter, making a marked contrast to the work done by some of the other collaborators.

Development and Evolution. Including Psychophysical Evolution by Orthoplasty, and the Theory of Genetic Modes. By **James Mark Baldwin**, Ph.D., Hon. D.Sc., LL.D., Stuart Professor in Princeton University. The Macmillan Company, New York.

We should like to present to our readers a complete outline of this extremely interesting and highly suggestive contribution to modern theories of evolution. The space at our command limits us to the expression of hearty appreciation of the volume and the earnest recommendation to all students of the problems of evolution to read it.

The medical practitioner is too frequently hemmed in by his daily round to the close application of purely medical topics. There is too much that is new in his own field that he cannot grasp for lack of time and strength; yet it often pays most amply to snatch a look into the biological field, for in so doing he gains a larger outlook in the questions of hourly moment in his professional duties.

From this standpoint the work of Professor Baldwin if read will yield a rich harvest, for it is an earnest and authoritative presentation of modern views on the great subject of evolution. It is worthy of note also that the subject of practical pedagogics is never far from the central drift of the writer's argumentation.

Massage and the Original Swedish Movements, Application to various Diseases of the Body. Lectures before the Training Schools for Nurses connected with the Hospital of the University of Pennsylvania, German Hospital, Woman's Hospital, etc. By **Jurro W. Ostrom**, from the Royal University of Upsala, Sweden. Fifth Edition. P. Blakiston's Son & Co., Philadelphia.

This fifth edition of Ostrom's book promises to be of even more practical value than preceding editions. There has been a real revision of the practical instructions for giving massage, and almost every page contains a number of points of special value for those who are not familiar with the application of massage. The illustrations of the book are very helpful and make the description of many a complicated movement otherwise difficult to understand easy of comprehension. The book deserves to have a continuance of the favor it has found in the past.

Diseases of the Stomach. By **John C. Hemmeter**, M.D., Phil.D. Professor in the Medical Department of the University of Maryland, Baltimore. Third Edition. P. Blakiston's Son & Co., Philadelphia.

Dr. Hemmeter in his first edition has well said "the harvest is plenteous but the laborers are few," but thanks to his initiative and the very valuable work which he gave the profession in 1897 there has arisen a large number of young clinicians who call him blessed, who have made valuable contributions to the study of gastric disorders.

So large has the interest in diseases of the stomach increased that a third edition of Dr. Hemmeter's textbook has been issued within five years of the original. It is, we think, the very practical character of the work which has contributed to its great popularity. But the scientific side of medicine has not been slighted in the least, for Dr. Hemmeter seems to be of that school that believes that good science is always good practice.

Of this third edition it can be said that no important researches of the past few years have been omitted in its preparation and the student of stomach disorders will find it thoroughly in line with the most approved scientific medicine.

Atlas and Epitome of Abdominal Hernias. By Dr. **Georg Sultan.** Authorized Translation from the German edited by **William B. Coley**, M.D. W. B. Saunders & Company, Philadelphia.

For the purposes of ordinary surgical practice the term "Abdominal Hernias" includes the vast majority of those which are encountered. Consequently a book dealing with this feature of hernia will cover a very wide extent of the field for the purpose of day to day work. This Atlas will certainly prove of great use for the purpose of affording a means of ready, brief and accurate reference upon a great many vital points in this all-important subject. The ground is exceedingly well covered, and the scientific quality of the matter is of a high order. A number of important details, which are rather apt to be overlooked by the ordinary practitioner, receive full attention. Such details have a very important bearing upon the so-called "nonsurgical treatment;" for example, the dangers of reducing a hernia, en masse, ring, sac and contents together, by too rough taxis, receive full attention, with two plates so clear that anyone, at a glance, after reading the subject-matter, will comprehend the point, and never forget its significance. Nonoperative treatment of strangulated hernia is also carefully dealt with. The description includes the best recognized modern technic for performing taxis, and a discussion of the auxiliaries thereof. Perhaps the greatest omission in the book is in this very detail of auxiliaries of taxis, on the point of attitude of the patient. Nothing whatever is said of that admirable practice by which the patient is put into exaggerated Trendelenberg position, so that the slowly and gently acting traction of the bowel from within the abdominal cavity will aid at reducing the difficulty. Hernia in children receives a good share of the subject-matter of the book, and it certainly is a most important and instructive detail of the entire question, because no one to-day doubts that hernia in a child, discovered early and carefully and perseveringly treated, may be cured without operation in a large number of cases. All in all, the book is as comprehensive of the subject as could possibly be expected within the limits, namely, about 300 pages.

Atlas and Epitome of Traumatic Fractures and Dislocations. By Prof. H. Helferich, Professor of Surgery of the Royal University, Greifswald, Prussia. Authorized translation from the German edition by Joseph C. Bloodgood, M.D., Associate in Surgery, Johns Hopkins University, Baltimore, Md. Fifth edition, Revised and Enlarged. W. B. Saunders & Company, Philadelphia and London.

This compact and exceedingly attractive little volume will be most welcome to all who are interested in the practical application of anatomy. The author and translator have made a most successful effort to arrange the illustrations that the interpretation of what they are intended to present is exceedingly easy. They have succeeded in establishing a very close and pleasing relation between the text and the illustrations and the publishers' technic has greatly facilitated the cross reference from one to the other. Opposite the excellent radiographic plates is an outline sketch of the same scale, to which one may turn for immediate elucidation of the skiagraph. It is, perhaps, unfortunate for American readers, who are probably less versed in Latin than in German, that in these sketches the translator allowed the somewhat free use of medieval nomenclature. Except among the students of Dr. Wilder, to whom such expressions are easy, odds of 100 to 1 are safe that "Os capilatum" or "Os triquetrum," for example, suggest nothing to the mind of our average medical reader.

It is amusing as well as instructive for those of us who knew and loved the grand old man to think of the volley of oaths which would have shot out had Dr. Sayre ever gazed upon page 132 of this volume. The contented looking individual pictured there wears a dressing which is described as Sayre's adhesive plaster for fractured clavicle. The surgeon who is best qualified to speak on this matter said that this picture looked about as much like a Sayre's dressing as it did like a billygoat's, and that the failures reported after the use of the dressings were too often ascribable to such faulty illustrations. It might be well if this malpresentation were eliminated from the new edition which the great worth of the book must soon make necessary.

A Text-Book of Histology and Microscopic Anatomy of the Human Body. Including Microscopic Technic. By Dr. Ladislaus Szymonowicz, A. O. Prof. of Histology and Embryology in the University of Lemberg. Translated and Edited by John Bruce MacCallum, M.D., Johns Hopkins University, Baltimore. Lea Brothers & Co., Philadelphia and New York.

The importance of the synthetic method in considering such comprehensive subjects as human morphology and pathology is being constantly appreciated to a greater extent, and has found ample expression in the present volume. The evolutionary and embryological characteristics of each tissue and organ have been made the groundwork from which the description of its mature architecture has been developed and the various histological problems involved have all been approached from this standpoint. The well-known accuracy and scholastic excellence of the work, which is widely used on the Continent, have been greatly enhanced by the additions of its translator and editor whose contributions have made it in every way adapted to the use of American readers.

Notable among the many additions is the adoption of the exquisite series of figures, and largely of the descriptions, of the base of the brain, which Miss Sabine originally contributed to the Welch Festschrift. Indeed, too much cannot be said in praise of the illustrations throughout, which bear witness to the degree of perfection attained by the modern color printer and for beauty of execution and perfection of detail have seldom been equaled. Considered purely from its mechanical aspects the volume is one worthy of classification with what lay publishers term "art books" and is deserving of a place in the cabinet of any bibliophile.

The section devoted to technic is unusually complete and its careful editing has made it reliable and up to date. The ordinarily ungrateful task of translation has been done in a manner worthy of the full meed of praise and the spirit of the author's words is presented in agreeable and fluent form.

To the readers of German the book needs no introduction for with them its reputation is already well established, while to others it may be commended as sure to appeal both to their intellectual and esthetic faculties.

Transactions of the American Dermatological Association at its 1901 meeting. New York: Rooney & Otten Printing Co.

As the membership of this association is limited to those who have done noteworthy work in Skin Diseases, the papers in this volume are of great medical and scientific interest. Johnston contributes a careful study of Sarcoma and Sarcoid Growths of the Skin. Montgomery discusses the Streaks in Nervous Linearis. Ravogli reports a case of Multiple Nodular Melanocarcinoma originated from a Nævus, and Stelwagon a case of Extraordinary Susceptibility to Quinine. The list of contributions is too great to be further itemized, but we feel compelled to call attention to the excellent symposium on the Parasitic, Inflammatory and Trophic Diseases of the Nails and their Treatment. A goodly number of fair illustrations of the gross and histological lesions lend added interest, as so much of the study of skin disease is really a study of skin pictures. The binding and printing are better than those of previous volumes.

The Medical Record Visiting List or Physician's Diary for 1903. William Wood & Company, New York.

This well-known visiting-list is arranged according to the same general plan as are those of other publishers, the printed matter, including pregnancy tables, maximum dosage, drops in a fluid dram, treatment of poisoning, etc., and the pages for entry covering general practice, consultations, obstetric engagements and practice, vaccinations, deaths, nurses' and other addresses and cash account. The dose-list is carelessly prepared. The maximum dose of powdered digitalis is given as two grains while that of the tincture is 20 minims, though this latter represents three grains of digitalis in its most active (liquid) form. The fluid extract of ipecac may be given up to 30 minims, but the wine only one-tenth as strong, is limited to 10 minims. A table of dentition might well be added. The "List" is very compact, is bound in leather, and fits conveniently in the pocket.

Essentials of Diseases of the Ear. By E. B. Gleason, S.B., M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia, etc., etc. Third Edition. W. B. Saunders & Co., Philadelphia and London.

We favorably reviewed the second edition of this Compend and now heartily welcome the *third*. Some new matter has been added under old headings, especially under etiology and treatment in cases of impacted cerumen, insects in outer canal and diseases of the middle ear. A new paragraph has been given to explaining the improvement in use of artificial drumheads. With few other exceptions the book is a stereotype of the second edition. Yet, its excellence makes it a constantly deserving claimant for support in the field it enters. It admirably supplies the student's need there as no other book on the subject does.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, etc. Edited by Henry W. Cattell, A.M., M.D., Vol. III. Twelfth Series. J. B. Lippincott Company, Philadelphia.

This volume of the International Clinics contains two timely articles on typhoid fever, one on the treatment of the disease by Professor Osborn of Yale, which is very practically suggestive and complete, and the other by Professor Mauger of Versailles, on the treatment of intestinal perforation in typhoid. Among the surgical contributions is an article on some effects of firearms at short range, with experimental illustrations by John H. Brinton, which contains some very interesting material. Dr. John A. Lewis's article on the treatment of fractures and dislocations in relation to suits for malpractice is a timely review of certain objectional features of present-day surgical practice, since the introduction of the X-rays have made such suits more prominent than ever. As Dr. Lewis says, "This is an age of damage suits and they seem to be a prevailing fad." Professor J. P. Tuttle contributes a very practical clinical lesson on the applications of the clamp and cautery for internal piles, as this method can be employed even in country practice where the physician cannot always see his patient for several days in succession after the operation. The special articles in this volume on the function of the digestive gland based on researches of Professor Pavlow and his pupils and a critical study of the theory of inflammation by Hans Schmaus, Extraordinary Professor at the University of Munich are well calculated to keep the practitioner abreast of advances in theory to correspond with practice. For those who are interested in curiosities in medicine there is an article by Dr. James J. Walsh on Insect Pests of Human Beings, which is a contribution very little known and only recently developed chapter of medicine.

Pathologische Anatomie und Krebsforschung. By Professor O. Lubarsch. Verlag von J. F. Bergman, Wiesbaden.

Professor Lubarsch who is thoroughly *au courant* with things pathological and etiological in reference to cancer, reviews all the recent contributions to the subject of the etiology of cancer and declares that some of them are surely not due to parasites and that even those which are due to parasites are at least as much to be accounted for because of the presence of fetal inclusion, chronic inflammation and frequent irritation. Meantime he considers that no parasite has yet been shown to bear a causal relation to true cancer.

A Treatise on Massage. Its History, Mode of Application and Effects, Indications and Contraindications. By Douglas Graham, M.D., of Boston, Massachusetts, Member of the American Association for the Advancement of Science; of the American Medical Association; of the Massachusetts Medical Society, etc. Third Edition Revised, enlarged and illustrated. J. B. Lippincott Company, Philadelphia and London.

The general attention attracted by osteopathy has renewed medical interest in massage and methods of manual therapeutics generally. The present volume now in its third and enlarged edition contains an excellent summary of what is known of practical massage. There is a good history of methods of massage at the beginning of the book and the application of various forms of special manual treatment to the different diseases in the concluding part. Each disease is taken up in order, and the indications and contraindications pointed out with the special technic most advisable in each case. Neurasthenia occupies some fifty pages of the book and the chapters are eminently suggestive of helpful methods for this most unsatisfactory of diseases. Many of the nervous diseases receive special treatment. Raynaud's disease particularly and the functional neuroses incident to various occupations are treated very fully. The book cannot help being of great service just at the present time when physical therapeutic methods are attracting so much attention.

Medical News Visiting List for 1903. Lea Brothers & Co., Philadelphia and New York.

This visiting list is now published in four styles, weekly, dated for 30 patients; monthly, undated, for 120 patients per month; perpetual, undated, for 30 patients weekly, and 60 patients, undated, and without the preliminary data, for those requiring specially large record books. The list is a very convenient pocket memorandum, in which a physician may with the greatest facility and accuracy keep a daily record of his calls, both from the clinical and financial standpoint. It is especially arranged to contain addresses, engagements and information which every physician finds necessary to have with him at every moment. Besides furnishing ample room for each physician's personal data throughout the year there are 32 pages of general information most needed in cases of emergency.

THE THEORY AND PRACTICE OF INFANT FEEDING. With notes on development. By HENRY DWIGHT CHAPIN, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital; Attending Physician to the Post-Graduate, Willard Parker and Riverside Hospitals, etc. William Wood & Company, New York.

FOLLOWING the pioneer work of Coit in establishing the milk commission which tests and certifies to the quality of the milk produced at the now famous Fairfield Dairy of New Jersey, and the introduction by Rotch of "laboratory modification," Dr. Chapin has persistently worked to educate the profession and the public to appreciate these two great advances in infant-feeding. "Get good milk and modify it properly" has been his continued cry, and the present volume is but an elaboration in detail of these two ideas.

Popular in style and arrangement, and well-printed, the book reads almost like fiction, but we venture to say that there are few medical men, outside of children's specialists, who will not gain much useful information from its pages. The author advocates home modification as that is universally practicable and is "as simple as diluting condensed milk." But that a food shall "agree" and produce gain in weight is not enough, for it must not only nourish the child but must also give the proper stimulus to the development of the infantile digestive tract.

An important chapter is that comparing the curds of different kinds of milk. If the curds are to remain and be slowly digested in the stomach, as in the calf, they are hard and dense; if they are to soon pass to the intestine, as in the colt, they are soft. A calf grows much more rapidly than an infant, so cow's milk contains more protein than does human milk. To the argument that cereals are unfit for infant's food as no human breast secretes cereals, the author replies that "no human breast has been known to secrete cow's milk" which was intended for so different a digestive tract from that of a baby. In his recommendation to dextrinize these cereals, he seems unmindful that dextrinized cereals are no longer cereals but are dextrin and sugar bodies.

Feeding with other substances than milk and with artificial foods, is given brief consideration. The important sections of the book are those headed "Underlying Principles of Nutrition," "Raw Food Materials," and "Practical Feeding."

THE PRACTICAL MEDICINE SERIES, of Year Books, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of GUSTAVUS P. HEAD, M.D. Vol. I., General Medicine, Edited by FRANK BILLINGS, Dean of the Faculty of Rush Medical College, Chicago and J. H. SALISBURY, M.D., Professor of Medicine, Chicago Clinical School. October, 1902. The Year Book Publishers, Chicago.

THIS volume contains an excellent review of the year's contributions to medicine. The abstracts with regard to such subjects as pulmonary tuberculosis, pneumonia, diseases of the heart, rheumatism, gout, rheumatic simulants, and diabetes, are especially full and suggestive. The material is of the kind that is particularly useful to the general practitioner. It is so difficult now to keep in touch with advances in medicine on account of the immense mass of medical literature, that this sort of review cannot fail to be of great service. There is no doubt that writers need more and more to make their own conclusions and print them at the close of their articles. In a review like this, the quotation of such conclusions forms the best possible abstract of a paper and it can be seen how much better authors are reported who have, as it were, made their own abstracts. In general, however, considerable pains seem to have been taken to get at the gist of all articles quoted in this book, and the object has been attained with noteworthy success.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

GYNECOLOGY, OBSTETRICS AND THE MENOPAUSE. By Dr. A. H. P. Leuf. 8vo, 326 pages. The Medical Council, Philadelphia.

BIOLOGICAL LABORATORY METHODS. By Dr. P. H. Mell. 8vo, 321 pages. Illustrated. The Macmillan Company, New York.

HUMAN ANATOMY. By Dr. Henry Morris. Third Edition. 8vo, 1,328 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

DISEASES OF THE SKIN. By Dr. Alfred Schalek. 12mo, 223 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

THE DEVELOPMENT OF THE HUMAN BODY. By Dr. J. P. McMurrich. 8vo, 527 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

SPECTACLES AND EYEGLASSES. By Dr. R. J. Phillips. Third Edition. 8vo, 109 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

THE ELEMENTS OF BACTERIOLOGICAL TECHNIC. By Dr. J. W. H. Eyre. 8vo, 372 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

PATHOLOGISCHE ANATOMIE UND KREBSFORSCHUNG. von D. O. Lubarsch. 8vo, 61 pp.. J. F. Bergmann, Wiesbaden. Lemcke & Buechner, New York.

A TREATISE ON MASSAGE. By Dr. Douglas Graham. Third Edition. 8vo, 462 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London.

DIE NEUEREN AUGENHEILMITTEL FÜR AERZTE UND STIRDIERENDE. By Dr. M. Ohlmann. 8vo, 171 pp. J. F. Bergman, Wiesbaden. G. E. Stechert, New York.

A TEXT-BOOK OF THE DISEASES OF THE EAR. By Dr. A. Politzer. Fourth Edition. 8vo, 884 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

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ORIGINAL ARTICLES.

MALIGNANT DISEASE INVOLVING THE GALL-BLADDER.

BY WILLIAM J. MAYO, A.M., M.D.,
OF ROCHESTER, MINN.;
SURGEON TO ST. MARY'S HOSPITAL OF ROCHESTER, MINNESOTA.

IN St. Mary's Hospital, Rochester, Minn., from June 24, 1891, to Sept. 23, 1902, 405 operations were performed for all causes upon the gall-bladder and biliary passages, and of this number, 20 or about five per cent. were for malignant disease. While this does not make it a common malady, it is sufficiently frequent to merit careful attention. The true proportion would perhaps be somewhat higher, as cancer of the gall-bladder, like malignant disease of most of the internal organs is slow to be recognized and is often, if not usually, so far advanced as to render even an exploration unnecessary, the character of the trouble being only too manifest on physical examination.

It is a question whether the relative number of cases in which cancer of the gall-bladder and bile passages are found and not subjected to operation would be more than five per cent. of the number of gall-stone patients in which operation is refused, or the true nature of the condition is not recognized. Schroeder, after investigation of the subject, says that 14 per cent. of gall-stone patients suffer at some time from cancer of the biliary apparatus.

This at once brings up the query, as to whether there is an etiological relationship between gall-stone disease and cancer of the gall-bladder. Courvoisier found that 74 out of 84 cases of malignant disease of the gall-bladder had gall-stones. Siegert states that in 95 per cent. of all cases of primary cancer of the gall-bladder, gall-stones are present and adds this most significant fact, that calculi are found in only 15 per cent. of secondary malignant disease of this organ.

Beadles, in the London Cancer Hospital, found that in four cases of primary cancer of the liver, gall-stones were present in all, and in 36 secondary liver cancers, gall-stones were not detected in a single instance. Musser gives the percentage of gall-stones in the cases of primary cancer of the gall-bladder which he found recorded as 69 per cent., but says that in many of the instances in which no stones were discovered it was probable that the calculi had passed. In all of the cases of cancer of the gall-bladder in our own series which were explored, gall-stones were present. Kelynack, in an exhaustive examination of the subject of cancer of the gall-bladder and bile ducts, placed the proportion of primary cancer of the gall-bladder at 75 per cent. of the whole, giving 25 per cent. as the number of primary cancers of the bile ducts.

Kelynack called attention to another noteworthy fact, that cancer of the gall-bladder was at least three times as frequent in women as in men, and this proportion is also true as to gall-stone disease.

Siegert found 79 females to 14 males. Cancer of the gall-bladder is most common between the age of 50 and 60, which is the period of greatest frequency of gall-stones. Sutton states that columnar epithelium from the mucous membrane is the type of the carcinomatous process, but says that in most instances it could not be determined whether its origin was in the mucous glands or the epithelium.

It is to be noted that the cholesterin which forms the chief constituent of gall-stones is also a product of the mucous membrane. Butlin says that the cancerous ulcer is the most common form. Sutton has found general carcinomatous infiltration of the gall-bladder forming a hard thick-walled tumor with a small cavity containing stones, to be the more common variety, and with this latter group could be placed the cases which we have recorded. It will be observed that these two varieties which compose the majority of the reported specimens, not only contained stones, but the primary lesions would suggest at once this probable source of irritation. Other gross forms of malignant disease of the gall-bladder are also found, particularly that type in which a tumor projects into the cystic cavity. The site of origin of cancer in the gall-bladder is usually near the fundus, although a considerable number have been discovered near the opening of the cystic duct. Perforation into the peritoneal cavity has rarely ensued, and general peritoneal infection taken place. The viscera may be found studded with little cancerous growths, causing ascites, or fistulous openings between the gall-bladder and the hollow viscera may occur. The most common method of extension is to the adjacent liver, either directly or through the blood vessels, and to the lymphatic glands lying in the hepatic fissure. So far as we could discover, there has been no recorded case of operation for primary sarcoma of the gall-bladder, although a few post-mortem specimens have been exhibited. Musser found three such cases recorded in the literature.

The following indisputable facts attract attention: First, gall-stones are almost constantly present in primary malignant disease of the gall-bladder and rarely in secondary; second, the relative proportion of gall-stone and malignant disease of the gall-bladder in women and men is practically identical; third, the pathological lesions found are best explainable on this theory; and fourth, the similarity in age frequency. Certainly we are warranted in concluding that gall-stones are the most important etiological factor in malignant disease of the gall-bladder. As the proportion of cancerous disease involving the gall-bladder and bile tract as to simple gall-stone disease was as one to 20 in the 405 operations upon the gall-bladder and bile passages, the question assumes practical importance, and while I would not wish to say that for this reason alone gall-stones should be removed, it certainly aids in deciding that early removal of active gall-stones, other things being equal, is sound surgery, particularly so as nearly all the mortality-giving complications are the result of delay. In over 250 uncomplicated gall-stone operations, the mortality was less than one per cent.

The diagnosis of primary cancer of the gall-bladder may be easy. As a rule, a hard tumor is to be detected in the region of the gall-bladder, which is not very tender to touch, and unless there is a peritoneal involvement, rigidity of the overlying muscles is not marked. There is progressive loss of flesh and later a carchexia is developed. A nodular tumor becomes apparent as the liver is involved and jaundice from extension to the common and hepatic ducts in the later stages may occur. A previous history of gall-stone disease can usually be obtained. Naunyn says that at least one-half of the cases of jaundice diagnosticated as due to gall-stones, are caused by cancer or complicated with it. In our experience, this is too high a percentage. The jaundice when it exists, is persistent and unchanging, and if a tumor is present which is accompanied by a loss of flesh, which appeared before the jaundice, there can be but little doubt as to the malignant nature of the trouble. Courvoisier long ago pointed out that stone in the common duct was accompanied by a contracted gall-bladder in 84 per cent. of cases and in the latter disease, the jaundice in the early stages is intermittent and often accompanied by occasional chills and fever, due to an accompanying infective cholangeitis.

We have seen a cystic gall-bladder of long standing, due to stone impacted in the cystic duct, give rise to a hard tumor resembling malignant disease, and occasionally such a tumor may result from an adherent gall-bladder shrunken down upon a mass of stones. The local tenderness and history of sudden appearance with the general condition of the patient will usually be sufficient to differentiate. It sometimes happens that even on the operating table it is impossible to say whether a thick-walled gall-bladder is malignant or not. Robson reports a case in which no fluid was found on puncture, but the hardness of the enlarged gall-bladder and the bad general condition of the patient led him to the conclusion that it was malignant disease. Drainage was established and permanent recovery followed. Abbe reports an almost identical case. The opposite mistake may also be made. The following case occurred in St. Mary's Hospital.

Case I.—Cholecystotomy for Gall-stone Disease. Unsuspected Malignancy.—Mrs. J. R., age sixty-four years, admitted to the hospital, Sept. 9, 1901. The following history obtained. For some years patient had suffered from typical gall-stone colic. In September, 1900, had a very severe attack, during which her physician, Dr. Slocumb of Plainview, Minnesota, could distinctly feel the enlarged gall-bladder. This was suddenly relieved and the tumor disappeared. She has lost a great deal in weight and is in constant pain.

Physical Examination.—Patient cachectic, slightly jaundiced, liver dulness indefinite, perhaps slightly enlarged. No tumor could be felt on palpation. Nothing else of importance was noted.

From the history a diagnosis of gall-stone disease was made. On Sept. 10, 1901, through the usual incision, an exceedingly adherent and very thick-walled gall-bladder was exposed. In the small central cavity a few gall-stones were found. One stone was impacted in the cystic duct. The patient was in bad general condition and drainage of the gall-bladder was instituted. Cholecystectomy would otherwise have been done. No suspicion existed that the gall-bladder was cancerous. The condition was supposed to be due to inflammatory thickening. Patient was discharged in three weeks. The relief obtained from the operation was but temporary. The pain returned and a tumor soon afterward appeared and rapidly enlarged, followed later by jaundice and death about four months after the primary operation.

Cholecystectomy is gradually displacing drainage in the class of cases accompanied by marked changes in the wall of the gall-bladder and it is probable that many early cases of cancer will in this way be discovered and removed. Practically all of the unoperated cases die within the year, although a few have been reported in which life was prolonged to nearly two years. Musser says that only a few months of life is to be expected and that this has not been prolonged by operation in the majority of the reported cases. The first removal of the gall-bladder for malignant disease took place in 1887. The number of cases reported is small. Robson had four personal cases of which one died as a result of the operatoin. Butlin collected 16 cases operated upon with 12 recoveries and of these nine died from recurrence on inefficient removal within four months.

The following two cases are of interest in this connection:

Case II.—Cholecystectomy for Cancer of the Gall-bladder. Recurrence after One Year.—Mrs. M. H., age sixty-three years, American, housewife, widow. Admitted to St. Mary's Hospital June 12, 1901, with the following history: For some years has had occasional attacks of cramps in the stomach lasting from a few minutes to several hours and necessitating the exhibition of morphia for relief. For three months there has been a steady boring pain in the region of the gall-bladder extending through to the back.

There has been considerable loss of flesh. In the early history some transient attacks of jaundice followed the spells of pain, although the icterus was never marked. Personal and family history otherwise negative.

Physical examination revealed nothing beyond a deep-seated resistance in the region of the gall-bladder. Diagnosis, gall-stone disease. Operation, June 15, 1902. A thick-walled gall-bladder densely adherent and containing a few small gall-stones in its nearly obliterated cavity. The appearance was suspicious and the gall-bladder was dissected out and drainage established. Discharged in three weeks. Unfortunately the specimen was lost and it was not until the patient presented herself with the subsequent history that the diagnosis was established. She had remained well for over a year. July 2, 1902, began to have a return of the pain and a jaundice developed. An irregular, deep-seated tumor at the site of former operation could be discovered on deep palpation. A manifest recurrence.

Case III.—Cholecystectomy for Cancer of the Gall-bladder. Recovery.—Mrs. T. McD., Irish, married, housewife, aged fifty-six years, was admitted to St. Mary's Hospital June 19, 1902, with the following history: For several years has been subject to attacks of cramping pain in the stomach lasting from a few minutes to several hours. For the past year these attacks have increased in severity and for several months the pain has been more or less continuous accompanied by loss of flesh and some jaundice. The latter symptom has been variable but never entirely absent. History otherwise negative.

Examination.—Patient shows loss of flesh and strength, somewhat jaundiced, pulse 110, temperature, 97½° F. Trace of albumin and considerable bile in urine. Liver dulness increased, no tumor in region of gall-bladder, tender to pressure in the epigastrium and right hypochondriac region.

Diagnosis.—Gall-stones with probable stone in common duct.

Operation.—June 21, 1902, straight incision through right rectus muscle, gall-bladder buried in a mass of adhesions. It is of small size with great thickness of the walls. Stone obstructing cystic duct at its juncture with the common duct apparently compressing the latter. Appearance of gall-bladder suspicious. Cholecystectomy with hepatic drainage through cystic duct. Discharged in 24 days. Specimen shows carcinomatous infiltration.

In a number of instances the adjacent liver has been involved and yet the diseased process was sufficiently localized to permit of resection of the infiltrated parts. The surgical treatment of such tumors has been thoroughly reviewed by Keen, Ferrier and others and personal cases reported. When complicated with jaundice, the mortality is very high. The following case illustrates the condition found in a more advanced case.

Case IV.—Cholecystectomy and Partial Hepatectomy for Cancer of the Gall-bladder Involving the Liver. Recovery, followed by Recurrence.—Mrs. E. R., American, age sixty-five years, was admitted to St. Mary's Hospital of Rochester, Minnesota, April 18, 1900.

History.—She has been in her usual health until within last six months. During this time she has suffered from a boring pain in right side, which of late has become almost constant. Stomach symptoms have been of moderate severity. There has been some loss of appetite and constipation with a decrease of 15 pounds in weight. No jaundice, nor history of colics. Examination reveals a somewhat movable tumor in the right hypochondriac region evidently connected with the liver. The mass has a nodular feel. Exploratory incision April 21, 1900. A carcinomatous gall-bladder involved the adjacent portion of the liver and the cystic duct. There was some infiltration along the common duct and extending to the duodenum, upon which at one place there was a considerable area of adhesions. A few glands in the angle between the cystic and hepatic ducts were infected. The disease was so definitely circumscribed with such slight glandular involvement that the removal of the affected area was decided on. The excision was begun at the common duct, two inches of which was removed with one-half inch of the hepatic duct. The vessels were caught and tied as divided; the area of adherent duodenum the size of a silver half-dollar was included in the excision. The opening in the intestine was closed by circular purse-string suture. The lower end being thus free, the gall-bladder with the attached liver was removed with the Pacquelin cautery knife. The larger vessels were grasped with forceps. The free venous oozing from the liver substance was not controlled by the cautery, although easily checked by slight pressure, the blood current being of little force. A piece of sterile gauze, the size of the wrist, was placed in the cavity and a continuous suture of fine catgut was run through the liver substance on each side of and around the gauze, compressing the bleeding liver margins against it, and efficiently controlling the hemorrhage. The portal vein was exposed to a considerable extent in the bottom of the cavity. Adequate drainage was afforded, the bile being conducted to the surface. Recovery was uneventful. The gall-bladder contained a single stone three-fourths inch in diameter. Patient died four months after the operation from recurrence.

So far as I have been able to discover, all of the cases in which the liver was involved secondary to primary cancer of the gall-bladder have had early recurrence. This is also true of the cases in which the lymphatic glands in the fissure of the liver were infected. Jaundice occurs in about one-half of the cases and as it is a late symptom, operation is contraindicated. The increasing frequency of operation for gall-stone disease will lead to the accidental discovery of cancer in an early stage and the results of operative interference will vastly improve.

SURGICAL VERSUS MEDICAL TREAMENT OF CHOLELITHIASIS.*

BY JOHN B. DEAVER, M.D.,
OF PHILADELPHIA;
SURGEON IN CHIEF GERMAN HOSPITAL, PHILADELPHIA.

"It is in the nature of things, that when a part of the human body has been made more accessible to the eye and hand by the progress of our science, that the treatment of affections of that part should change from the medical to the surgical, or at any rate from the general to the topical side."

THIS philosophic sentence is quoted from an English work by Sir Felix Semon and exactly states the trend of modern surgical teaching in lithiasis of the gall-bladder. The surgery of the gall-bladder and bile ducts is being elaborated and perfected year by year and Marion Sims' suggestion that gall-stones come within the sphere of the surgeon has been verified beyond expectation by the labors of Mayo Robson, Hans Kehr, Richardson, Murphy, Fenger and many others. With modern aseptic technic, laparotomy has been robbed of its perils and to-day we find many sufferers relieved of the agony of gall-stone attacks by an operation opportunely performed.

In discussing methods of treatment it is well to have some idea of the etiology of gall-stones and their methods of formation. As yet this phase of the disease is open to much doubt and is a fertile field for investigation. It has long been recognized that the precipitation of bile products upon a nucleus was the starting point in the disease, and this nucleus was supposed to be mucus, epithelium or some other detritus caused by a stagnation of the bile.

Since 1890 the infectious nature of cholelithiasis has received much attention and during 1897 gall-stones were experimentally produced by Mignot, Gilbert and Fournier by innoculation with the bacilli coli and the bacillus of typhoid fever in attenuated culture.

With the experimental production of gall-stones by bacteria and with the frequent finding of micro-organisms, either living or dead within the calculi, the view is gaining ground that "a lithogenous catarrh induced by micro-organisms is the most important single factor of gall-stone formations" (Osler).

Cholesterin is the chief constituent of gall-stones and is formed in the gall-bladder or bile ducts. It is held in solution by the bile salts and under certain conditions precipitates and forming around a foreign body, a micro-organism, etc., rapidly forms a gall-stone in five or six months' time. It is a clinical fact that stones in the gall-bladder are usually of about the same age and chemical composition, pointing to some distinct past disturbance in the gall-bladder.

Bearing these few etiologic facts in mind and remembering the influence which age, sex, sedentary occupations and overindulgence in food have upon the disease, we should be more constantly on our guard to diagnose the condition in its early stages and before the numerous attacks have caused extensive adhesions about the gall-bladder, as well as have excited a pancreatitis. These adhesions occurring most frequently between the gall-bladder and the pylorus, intestines or omentum, especially the duodenum and colon, give rise to various symptoms which complicate the case and cloud the diagnosis.

The treatment of gall-stones at the present time is being largely discussed by both internists and surgeons with much the same arguments as were advanced a few years ago in appendiceal disease. At the present time no physician of intelligence fails to call a surgeon into consultation when he diagnoses a case of acute appendicitis and the promptness with which operation is advised is recognized as determining the mortality of the disease. If this is delayed the disastrous sequelæ of gangrene and perforation of the appendix with a resulting peritonitis occur in the large majority of instances.

In gall-stone disease the same argument holds good. An operation performed while the stones are still in the gall-bladder produces a mortality which is nearly nil, but if gangrene of the gall-bladder takes place, or if the stones become impacted in the common duct, the mortality rises higher and higher even to 25 per cent.

The results of impaction in the common duct are frequently disastrous to the integrity of the biliary passages. Infection of the bile ducts, cholemia, pancreatitis, ulceration of the common duct with fistulæ formation or a general peritonitis may occur. An ulcerative communication between the gall-bladder and a neighboring viscus, particularly the stomach, may take place. If the patient survives the attack extensive adhesions to the duodenum, stomach, colon or omentum may make life miserable. The contraction of the adhesions may cause obstruction of the bowel at any time and the constant irritation of the stones may give rise to a carcinoma of the gall-bladder.

These complications are not met with in isolated instances but are frequently seen by the surgeon at the operating table and many cases are lost, for which the operation is held to account, which are really due to the procrastination of the attending physician. It has been urged in favor of medical treatment in the early stages of gall-stone disease that postmortem records have frequently shown the presence of stones where the clinical history has not given evidence of the fact, and that proper medical treatment should keep the stones at rest and prevent inflammation, thereby avoiding surgical interference.

If a drug could be found which would have a solvent action upon gall-stones, then the surgery of cholelithiasis would sink into oblivion. Since the time when the famous Durande mixture of ether and turpentine was so widely exploited up to the present, various remedies have been suggested which had a solvent action on gall-stones. The so-called saline cholagogues, the salicylate, sulphate, benzoate, phosphate, bicarbonate and chloride of soda, sulphate of potash and ammonium chloride have all been advocated by various authorities.

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* Read before the Southern Surgical and Gynecological Association, at Cincinnati, Ohio, November, 1902.

Olive oil is held in high repute to the present day as an aid to the passage of gall-stones and, while in the test tube it does cause a loss of weight in the gall-stones, yet there is not the slightest evidence that the oil can reach the cystic duct or the gall-bladder. The oil is said to have an action upon the mucous membrane favoring an increased secretion; but if we accept the view that the expulsion of the stone is due to the efforts of the diseased bile passage to get rid of an offending body, wherein does this efficacy lie?

Mayo Robson states that after an extensive use of olive oil he has never seen much good result from its employment. This is quite in accord with the writer's experience.

The pilgrimage to Carlsbad has been made by many sufferers from gall-stone disease in England and on the Continent, and by those few from this country whose means permit such an expensive course of treatment. It is undoubtedly true that many sufferers from gall-stone colic have been relieved by the Carlsbad waters. The regular mode of living, the soothing effects of the warm medicated waters on inflammatory lesions, the laxative action of the springs and the beautiful surroundings are all conducive to powerful stimulation of the tissues. As Kehr puts it, "The principal material at Carlsbad is the gall-bladder lithiasis of the prosperous class and not the chronic obstruction of the bile ducts." The catarrhal inflammation is allayed and the bile once more flows unimpeded in and out of the gall-bladder. The symptoms have abated, but the disease itself is untouched, the stones remain and, like the appendix, when inflammation has once found a favorable soil it is very apt to recur again.

If the disease passes into the stage of latency, no further trouble resulting, the patient is considered as cured and a triumph recorded for Carlsbad.

Gall-stone colic often occurs again and again until the frenzied sufferer, obtaining relief at first in a single dose of morphia, becomes more and more habituated to its use and soon finds that the hypodermic syringe has become indispensable. This is too often the usual result of medical treatment of gall-stones.

There are many medical men in this country who will oppose early operative interference in cholelithiasis for some years to come, but just as in appendicitis, the evidence of those whose antemortem pathological experience is greatest, will weigh in the balance and decide the future treatment of the disease. Despite the work of Mayo Robson in England a recent publication upon gall-stone disease by J. H. Keay (England), has appeared under the title of "Medical Treatment of Gall-stones." The title, however, is a misnomer as nothing new or startling is advanced from the medical standpoint, while the ulterior purpose of the book is an attack upon the surgical treatment of cholelithiasis. A review of the author's position would subserve no useful purpose, as the arguments advanced against operation are deduced from an experience of three cases, one of them himself, another a relative, and a third a patient and from a perverted view of the statistics of the Registrar-General.

Some of his statements will serve to show what harm such teachings may have upon many practitioners. He admits that the diagnosis of gall-stones in their earlier stages should not be difficult and yet denies the certainty of diagnosing empyema of the gall-bladder and suggesting that the forces of nature are more potent in relieving this suppurative process than a cholecystotomy with drainage. He calmly suggests, "that it is always possible that the stone may perforate the ducts and pass quite safely into the intestines." No thought is apparently given to the dangers of peritonitis from this same perforation. Of chronic duct obstructions he says "that a time will come when, after the complete blockage of the common duct by a stone, life is in serious danger." Of course it is, but should never be placed in such jeopardy by prolonged and useless medication with antiquated cholagogues.

These few abstracts will serve to show the uselessness of the book as an exponent of the modern teaching of the treatment of cholelithiasis.

The surgical treatment of gall-stones will depend upon the situation of the stones, and the presence of such complications as adhesions or biliary infection. When in the gall-bladder if there be but little evidence of disease of the walls indicating a mild infection, cholecystotomy may be performed with careful Lembert suturing of the opening through which the stones were extracted. If suppurative cholecystitis exists a cholecystotomy with drainage is required. Stones in the cystic duct require a cysticotomy and chronic obstruction of the common duct necessitates opening the duct. Calculi become lodged in the common duct according to Courvoisier in four per cent. of cases, according to Robson in 13.25 per cent. When the obstruction is acute in character with intense jaundice, vomiting, chills and fever and violent colic, operation is contraindicated. Sufficient morphia should be given to quiet the intense pain, hot applications applied over the gall-bladder, and castor oil to keep the bowels moving. If the inflammatory condition subsides the stone may pass onward into the duodenum: but if the attacks persist any length of time with fever and rapid pulse and symptoms of cholangitis then choledochotomy should be performed without drainage of the hepatic duct. Should the condition of the patient be so poor that a prolonged operation would cause death, we may perform a cholecystostomy, and later, when the patient is in better condition remove the stone from the duct.

Frequently occurring attacks of infectious cholecystitis will give rise to more or less extensive adhesions, which not only give symptoms per se, but complicate operation. The presence of an adhesive pericholecystitis can often be diagnosed and is a further argument for operative interference. In addition to the adhesions, the gall-bladder becomes thickened and shrunken in consequence of frequent inflammatory attacks and can never be satisfactorily palpated. If the adhesions are not too extensive such a gall-bladder may be excised, but there is so often such marked adhesion of the structures around the gall-bladder that its removal is difficult and may necessitate extensive gauze drainage. An attempt to dissect it loose from the liver is followed by considerable oozing. The writer is usually satisfied with breaking up the adhesions about the pylorus, duodenum and colon, covering the raw surfaces with "Cargile." The gall-bladder is then opened, the calculi removed and a rubber drainage tube protected by a gauze strip introduced into the gall-bladder. Hydrops of the gall-bladder usually requires a cholecystectomy unless the organ is in good condition, when incision and drainage will give good results. If the hydrops is due to an infection of the gall-bladder and not to calculous obstruction of the cystic duct medical treatment should be tried for a time at least.

Non-calculous infectious cholecystitis should be treated medically so long as the condition shows any tendency to improvement, but in the event of increase in the severity of the symptoms, in spite of the best known medical means, hepatic drainage should certainly be carefully considered. These cases are those most likely to be benefited by the Carlsbad treatment. The question of the diagnosis between non-calculous and calculous cholecystitis is most important and too much stress cannot be laid on a careful history of the case and especially of the previous history, indeed this applies to every phase of cholelithiasis. Cholecystitis occurring in a patient who does not give the history of a previous biliary colic or arising during or after an infectious disease is in favor of uncomplicated or non-calculous cholecystitis.

Carcinoma of the biliary apparatus comes properly under the care of the medical man.

In operating upon gall-stone subjects calcium chloride should be administered for a few days previous to operation, giving 10 or 20 grains three times a day. It seems to lower the time required for the blood to coagulate and thus lessen the risk of post-operative bleeding. The presence of the bile products in the blood has some action, as yet imperfectly understood, which greatly retards coagulation. The writer has lost cases from severe capillary oozing following an otherwise successful operation.

The placing of a sand pillow beneath the back will so arch the liver forward that when the abdomen is opened the liver may easily be drawn out of the abdomen sufficiently far to obtain a better exposure of the biliary passages. Adhesions should be carefully separated and unnecessary handling of the liver, gall-bladder or ducts avoided.

Cholecystostomy.—The gall-bladder is exposed by an incision through the right rectus muscle and excepting in highly infectious cases, is generally freed from adhesions, which when met with usually involve the abdominal wall, omentum, duodenum and pylorus. The gall-bladder is isolated by gauze pads and aspirated of its contents. The puncture is then enlarged and the gall-bladder examined for stones, if present, they may be removed with forceps or scoop. A small piece of iodoform gauze is introduced into the gall-bladder and the opening temporarily closed with an hemostatic forceps. The gall-bladder is then brought into the wound if possible. A piece of gauze is passed around the gall-bladder in such a manner as to allow the lower end of the gauze to protrude from the lower end of the wound and the gall-bladder is sutured to the aponeurotic layer of the abdominal wall. Before tying the gall-bladder sutures the gauze pads are removed, but not the gauze around the gall-bladder. The sutures are tied, the wound above and below the gall-bladder closed, the hemostatic forceps removed, the piece of iodoform gauze taken out of the gall-bladder and a solid rubber drainage tube carried into the gall-bladder. This drains into a receptacle at the side of the patient.

When acute empyema exists it is safer in most cases to merely suture and drain the gall-bladder, not searching for calculi until the danger of infecting the ducts has disappeared. When it is impossible to bring the gall-bladder into a position favorable for its suture to the peritoneum, it must be protected by gauze packing after introducing the drainage tube. Acute infectious gall-bladders should be palpated as little as is consistent with good work, and in these cases the common duct should not as a rule be probed for the presence of a stone.

The so-called "ideal" cholecystotomy, where the opening in the gall-bladder is sutured after removing the stone or stones is an unsafe procedure unless the case be free from infection and the suturing very carefully performed, and, bearing in mind the fact mentioned early in this paper that calculi in most instances are due to bacterial infection, these cases are necessarily few. Homans has reported a case where gall-stones formed around silk sutures twenty months after recovery from cholecystotomy.

Choledochotomy is performed by incising the duct over the stone, removing it and searching with the finger and probe to ascertain that the ducts are clear, this is particularly important. The main as well as the right and left hepatic ducts are to be explored. The wound in the common duct may be closed with Lembert sutures if the integrity of the duct will permit and the field of operation always drained with a gauze strip. If the position of the duct renders suture impossible, or if its coats are infiltrated and friable, a rubber drainage tube should be introduced well into the hepatic duct and carefully surrounded by gauze packing. In certain cases of choledochotomy it is wise to drain the gall-bladder as well.

When calculi are situated close to the duodenum in the ampulla of Vater the duodenum must be opened in its anterior wall and the opening of the duct laid open from within the duodenum. If no intestinal contents have escaped, a Lembert suture of the duodenum is sufficient, without drainage.

When the common duct immediately to the proximal side of the ampulla of Vater is the site of a stone which cannot be dislodged, the duct may be exposed by reflecting the posterior parietal peritoneum to the outer side of the descending duodenum.

Choledochenterostomy is rarely performed. The writer has never had a case requiring this operation.

Cholecystenterostomy is an operation which should be confined to those cases of obstruction of the common duct due to a malignant growth and in certain cases of stricture and fistulæ. This operation was formerly performed in chronic pancreatitis but has latterly been abandoned for cholecystotomy with drainage.

Postoperative vomiting is frequent in gallbladder surgery and is often difficult to control. Lavage and the administration of all nourishment by the rectum are the best agents for its control.

Should capillary oozing follow operations on markedly jaundiced patients all treatment usually fails and the patient becomes exsanguinated and death results. Calcium chloride should be administered by the rectum, 30 to 60 grains every four hours—and full doses of opium given.

The recurrence of pain after a successful operation is not due to the recurrence of stones in the majority of instances, but to the presence of adhesions. The latter being ameliorable to operative interference with less risk than that attending the primary operative procedure. The early establishment of peristalsis may prevent the formation of adhesions.

Biliary fistulæ following cholecystostomy persist for a few months as a rule but ultimately close. Continued persistence of the fistula may be due to some obstruction of the common duct. In some cases cholecystenterostomy is the best operative procedure.

Mucous fistulæ may also result from the same operation and are due to an obstruction of the cystic duct. Sometimes a mucous fistula follows a cholecystectomy and is due to continued secretion from "islands" of mucous membrane not destroyed by the operation.

Drugging Babies in India.—The habit of drugging their babies so that they can be left alone is very common in India among mothers who work in factories. In the city of Madras the infant mortality is given as 295 per 1,000.

American Medical Association Notes.—The Local Committee of Arrangements at New Orleans is making progress for the next meeting of the Association. The December number of the New Orleans *Medical and Surgical Journal* reports some interesting meetings of the local committees.

REPORT ON THE CARE OF THE SICK POOR OF THE STATE OF NEW YORK: WITH SUGGESTIONS FOR THE ESTABLISHMENT OF CONVALESCENT HOMES, PSYCHOPATHIC HOSPITALS AS RECEPTION STATIONS FOR THE INSANE AND SPECIAL PAVILIONS FOR THE TREATMENT OF THE TUBERCULOUS INSANE AND EPILEPTICS; ALSO SANATORIA, SPECIAL HOSPITALS, TUBERCULOSIS DISPENSARIES AND AGRICULTURAL COLONIES FOR CONSUMPTIVES DEPENDENT ON PUBLIC CHARITY.*

BY S. A. KNOPF, M.D.,
OF NEW YORK.
CHAIRMAN OF THE COMMITTEE ON RELIEF OF THE SICK POOR OF THE THIRD NEW YORK STATE CONFERENCE OF CHARITIES AND CORRECTION

My first duty is to thank you all for the honor you conferred upon me last year by my election as chairman of this important committee. I consider myself particularly fortunate to have occupied this position during the year 1902, for I do not think there has ever been a year more eventful than the present one in the history of the charity work of this great State. Large sums have been donated to the various charity institutions, devoted to the care of the sick poor; new hospitals have been erected and old ones enlarged or improved, but it would be impossible in the short space of time allotted to me to enumerate all that has been done towards improving the condition of the sick poor of this State during the past year.

In order not to speak of New York City alone I have endeavored to secure direct reports from the respective authorities of the five largest cities of the State. Beginning with the city of Albany, which extends to us its hospitality to-day, I am indebted for the report to Dr. Craig, the Health Officer, who informs me that there has been no change during the past year in the methods of caring for the sick, as far as the Department of Health is concerned; the present method working with entire satisfaction.

The city of Syracuse is divided by its Health Department into four districts, with a physician for each district. Such serious cases among the poor as cannot be promptly treated at home are sent to the public hospitals, of which there are four; for this the city expends annually $15,000.

From the city of Rochester I learned that the Health Department allows $2,500 a year for the care and maintenance of cases of contagious diseases among the poor. There are seven city physicians attached to the Health Department who make daily visits to such of the needy sick as are deserving, after the cases have been investigated by the Poor Department. Outside of the contagious disease cases the Department of Charities provides for the maintenance of the sick poor in hospitals.

Buffalo has 10 district physicians for the care of the sick poor. These physicians are paid by the municipality and medicine is furnished gratis.

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* Address delivered at the meeting of the Third New York State Conference of Charities and Correction, held in the Senate Chamber at Albany, November 19, 1902.

Where it is necessary to send the patient to a hospital, this is done through the City Poor Master, and, in the majority of cases, at the request or suggestion of one of the district physicians. Every hospital in the city receives them, and the city pays the bill.

With the exception of the lack of accommodation for the tuberculous poor in these four cities, there seems to be no difficulty in the care of the sick poor, whose numbers are relatively small as compared with those of the great city of New York. The State Hospital for the Consumptive Poor, which we hope will be completed and in running order before this conference meets again, will in a measure meet the necessity of the care of the consumptive poor of the State; of course, inadequately, but it is hoped that if our legislators can once see with their own eyes the great good a State sanatorium can do in the prevention and cure of consumption, they will learn to be more liberal with their appropriation, and facilities for the care of the consumptive poor from all over the State will increase in numbers.

The unsatisfactory condition of treatment and care to which the large number of insane and epileptic poor of this State have been subjected in the past has materially improved, particularly during the last year, thanks to the untiring energy of the State Board of Health and the Commission of Lunacy. I sincerely hope that the numerous excellent recommendations, set forth by Commissioners Peterson and Parkhurst and Mr. McGarr in their recent report, will be carried out, and that the legislature will do its duty. Insanity as well as epilepsy, with our present knowledge of its causes and its pathology, must be classified with preventable and curable diseases, and abundant means should be placed at the disposal of the commissioners to create the best possible facilities for the cure of these unfortunates. By returning to the communities from whence they came, as breadwinners, healthy in mind and body, as large a number as possible of the formerly insane and epileptic, the commonwealth would be the financial gainer in the end.

Among the recommendations which seem to me of particular importance, contained in the report of the State Commission of Lunacy, are small psychopathic hospitals for all the larger cities of the State. These institutions should serve as reception hospitals for all cases of insanity until their character and prognosis has been determined. A division of acute and chronic cases is thus facilitated and a hasty diagnosis with its sometimes sad and fatal consequences avoided.

The other recommendation, which I most heartily endorse, is the separation of the tuberculous insane or tuberculous epileptic from the non-tuberculous mental or nervous sufferer. The urgent reason for such separation must be obvious. All those who have experience with the insane and epileptic know how easily tuberculosis spreads among these unfortunates, particularly when the patients are much confined within walls. There must be special provision for pulmonary cases in all institutions for the insane and epileptic, for only when the tuberculous are separated from the non-tuberculous is it possible to control, even in a measure, the indiscriminate expectoration and, perhaps, also the drop infection (infection arising from expulsion of small particles of bacilliferous saliva during the so-called dry cough, sneezing, etc.). The therapeutic measures, such as open-air treatment, respiratory exercises, over-alimentation, and constant medical supervision, are also possible only when this class of invalids are separated from others. Whether the tuberculous insane or epileptics should live in tents, especially constructed pavilions or cottages, would largely depend upon the climatic and topographic condition of the locality where these institutions are situated. As for myself, I would favor the pavilion plan, with ample verandas for the rest cure, large enough to accommodate from 20 to 25 patients. My personal experience with the tuberculous insane or tuberculous epileptics has been limited, and I do not wish to express an expert opinion on the method of the special treatment of such individuals; but my somewhat extensive experience with ordinary consumptives has taught me that the psychical and mental conditions of the pulmonary invalid improve in the same ratio as his tuberculous trouble decreases. One of the first symptoms in the early recognition of pulmonary tuberculosis is an increased nervous irritability; one of the most favorable symptoms of approaching recovery is when the patient becomes himself again, psychically and mentally.

Leaving aside even the great importance of prophylaxis, the very frequent cures of pulmonary tuberculosis and its concomitant improvement of the mental state should be a great inducement to us to try to cure all tuberculous epileptics and insane.

From a letter recently received from the distinguished superintendent of our Manhattan State Hospitals, Dr. A. E. Macdonald, I learn that an open-air camp for the treatment of the insane tuberculous poor of that institution has been in operation for some time with gratifying results.

The condition of the poorest among the sick poor of the city of New York, that is to say, the inmates of the Almshouse Hospital—a condition which has been most deplorable during the past because of insufficient food and care, has been most gratifyingly improved under the energetic, humane and benevolent reign of the present Commissioner of Public Charities, the Hon. Homer Folks. Another magnificent work accomplished by Commissioner Folks, which deserves mention on this occasion, is the establishment of a hospital for consumptives on Blackwell's Island by the utilization of the buildings vacated by the Manhattan State Hospital for the Insane. This hospital was opened on Jan. 31, 1902, and within one week all the consumptive patients from Bellevue, City, and Metropolitan hospitals, who were not treated in wards devoted exclusively to their care, were transferred to this new institution. The number of patients received in this hospital from Jan. 31, 1902, to March 31, 1902, inclusive, was 194. While a large majority of the patients received were in the advanced stages of the disease, a small number were in a condition which admitted of some hope of improvement. For these patients, separate accommodations, extra diet and special treatment were provided, with the result that a majority of patients of this class showed a substantial gain in weight and a diminution of the active symptoms of phthisis.

I am happy also to announce on this occasion that the Loomis Sanatorium at Liberty, now in charge of Dr. Herbert M. King, has of late established an annex with 30 beds for the treatment of moderately poor consumptives, that is to say, for patients who are able to pay $5 per week, for which they receive the best board, medical attendance, medicine, and even washing.

Before leaving the subject of tuberculosis and the sick poor, I must mention a work of which the New York City members of this conference may justly be proud. I refer to the Committee on the Prevention of Tuberculosis of the Charity Organization Society of the city of New York. To those of you who have not yet heard of this committee, and to those in other cities who might wish to inaugurate similar movements, I believe it will be of interest to learn something of the workings of this committee and the results already obtained. The committee is composed of about 30 men and women and is presided over by Mr. Charles F. Cox, as chairman. Among the lay members are leading sociologists, lawyers, philanthropists and trained charity workers. The Tenement-house Commissioner, the Commissioner of Charities, the Health Commissioner, and the Health Officer of the city of New York are likewise of this number. Among the medical men 10 are distinguished professors of the leading medical schools of New York. Dr. E. L. Trudeau, the pioneer of the sanatorium treatment for consumption in the United States, is also counted among the honored members of the committee.

The work which this unique committee has undertaken is as follows:

(1) Research into the social, as distinct from the medical, aspect of tuberculosis. For example, into the relations between the disease and overcrowding, infected tenements and unhealthy occupations, and also the influence upon recovery, of improved diet and hygienic living.

(2) Education. The publication of leaflets and pamphlets, the giving of lectures and the promulgation in every possible way of the fact that tuberculosis is a communicable and preventable disease; the widest distribution of the results of scientific research in this field, and of the results of modern treatment both in sanatoria and at home.

(3) The encouragement of movements for suitable public and private sanatoria both for advanced and incipient cases; for adults and for children; for free care and also for the care of those who can pay moderate fees.

(4) The relief of indigent consumptives by the provision of suitable food and medicines, by the payment of rent when this is necessary to secure adequate light and air, and by transportation and maintenance at a distance, when, in the judgment of the committee, this is essential.

The labors of the committee are directed not only toward the amelioration of the condition of the large class of consumptives, but also toward the benefit of the community as a whole in which there is encouraging reason to believe that tuberculosis may be practically eradicated. The work of the committee is not intended to be merely temporary, but its continuance and effectiveness will depend upon the public encouragement and support received.

How deeply the work of the committee is appreciated by the public may be readily seen from the response to an appeal for financial aid to carry on the work. An appeal issued by the committee on Sept. 15 resulted in the receipt of about $5,000 by Oct. 1. The continued support which the public is lending to this committee enabled it to engage a permanent secretary, to have paid workers for the gathering of statistics, to arrange for a number of lectures throughout the city in public schools, Young Men's Christian Associations, tenement districts, and so on, and last but not least, to provide a number of destitute families, where there are consumptive invalids, with better hygienic conditions and means to pay for food and other necessities.

An offer of a site for a sanatorium has been already made to this committee, and it is devoutly to be hoped that funds for the establishment of such an institution will soon be forthcoming. I am also in hopes that some great philanthropist will give either to this committee, to the New York City Board of Health, or directly to the city, a much-needed tuberculosis dispensary where the ambulant consumptive poor, that is to say, the ones still able to be up and do some work, or the ones unable to be admitted to the hospital for incipient cases, can receive treatment and hygienic instruction. Such institutions are already quite numerous in France and Germany and are productive of a great amount of good in the combat of tuberculosis among the poor.

An equally great need is that for more hospitals for the advanced cases of consumption, such, for example, as St. Joseph's, the Brooklyn Home, and the one already mentioned, on Blackwell's Island in New York City. While but few cures can be expected in such an institution, through the proper isolation of such cases, that is to say, removal of the sick from the crowded tenement districts, centers of infection are destroyed and the financial burden resulting from the support of an invalid member in a family is removed, which is likewise essential for the preservation of the health of the remaining members of the family.

Being myself an humble member of the Tuberculosis Committee of the New York Charity Organization Society you will pardon my enthusiasm if I say that I consider the work which it has undertaken most timely, humane, rational and scientific, and that I prophesy for it a glorious future, providing it receives from our wealthy fellow citizens in New York the financial support it so truly deserves. I am convinced that if the same or similar work would be undertaken in other cities of this State and country, the "great white plague" would no longer have the terror it still has, and its ultimate eradication would be a great probability.

To trained charity workers it should be gratifying to know that the creation of this committee has been mainly due to the untiring efforts of Mr. Edward T. Devine, the secretary of this conference and secretary of the Charity Organization Society of New York City.

Another gratifying change for the better, in the care of the sick poor of the city of New York, has been effected through the work of our new Health Commissioner, Dr. Lederle, and his associate, Dr. Biggs. The deplorable condition of the Smallpox Hospital no longer exists, and an appropriation of $500,000 has been granted for the erection of new contagious disease hospitals for smallpox and scarlatina patients. The heart-rending sight of a child being taken from its mother without her being able to follow to the hospital and remain in its vicinity, will no longer be witnessed.

It remains for me to mention only one other great event in the care of the sick poor, or rather of the convalescent poor, which has transpired during the past year. It is with pleasure and the feeling of profound gratitude that I, as chairman of the Committee of the Sick Poor, express herewith our deep and heartfelt appreciation of the great gift to our beloved city by the venerable Mr. John M. Burke. It will be known to most of you that on October 2 of this year, a deed was filed at Marshall, whereby John M. Burke conveyed to the Winifred-Masterson-Burke Relief Foundation $4,000,000 worth of real and personal property, to be used as an endowment for a hospital for convalescents. In a recent communication to one of our medical journals, and also to *Charities,* I have expressed my views on the advisability of creating four homes instead of one, namely one for surgical convalescents with a division for obstetrical cases, that is to say, women recovering from confinement; one for convalescents from general medical diseases, such as typhoid fever, pneumonia, etc.; one for nervous cases; and lastly one for convalescents from pulmonary tuberculosis. The latter, however, should not be a convalescent home in the ordinary sense of the word, but rather a settlement or colony.

Through State and city appropriations and private philanthropy there is at present some prospect that we will soon have a number of sanatoria (though by no means enough) for the treatment of incipient, that is to say, early and curable cases among the consumptive poor. Now, the most difficult task in the solution of the tuberculosis problem is to prevent the cured consumptive from a relapse. If he returns to the unsanitary, dreary tenement, begins to work again in sweatshops and factories, or, owing to his feeble health, cannot yet earn enough to secure ample and nutritious food, the time and money spent for sanatorium treatment will have been all in vain, for he will surely relapse into the old condition and thus greatly endanger his chances for a lasting recovery. What can be done for him? For the recently recovered consumptive, who is rarely able to take up his former work immediately, we would establish a special farm in a good, healthy locality, where he could do light outdoor work and remain until he has grown vigorous enough to take up his old vocation or acquire sufficient liking for outdoor work to continue in it. Such an agricultural colony or farm seems to me the ideal home for the patient recovering from pulmonary tuberculosis. It would not only prove a blessing to thousands of pulmonary invalids, but would constitute a strong factor in the combat of tuberculosis, viewed as a disease of the masses. Agricultural colonies for the convalescent consumptive poor certainly seem as essential as special hospitals and sanatoria for the actual treatment of the disease. Such colonies for recovered consumptives have proved in a large measure self-supporting, wherever the experiment has been tried.

All four institutions should be in different localities, at some distance from each other, for the aggregation of too large a number of people would prove injurious to no matter what class of convalescent patients. If at all practical, each home should have a division for convalescent children, for there is, with the exception of a small number of homes for children, no institution of this kind in or near our city.

There is but one more suggestion I would venture, and that is in regard to the selection of cases to be admitted to the various homes for convalescents. Not only cases discharged from our public hospitals, but also those from private practice among the poorer classes who pay their physicians whatever they can, should share in the benefits of the Burke Foundation.

At the close of this report I wish to ask pardon for not having mentioned the work of other institutions and individuals. There are throughout this State a goodly number of charitable enterprises devoted to the care of the sick poor, of whose noble work in relieving the sick and needy we hear but rarely. Yet their work is systematic, continuous and effective. I desire to express to these workers our deep appreciation. There are also numerous private individuals, physicians and laymen, in cities, towns and hamlets throughout this State and country working quietly, unobtrusively and unknown to others, administering counsel, food and medicine in the homes of the poor and unfortunate. To these co-workers, benefactors and unknown members of our committee for the care of the sick poor our gratitude is as great as that to our best-known benefactors. May they and all others continue in the good work and be blessed in their labors for the glory and good of humankind.

16 West Ninety-fifth Street.

CREDE'S INTRAVENOUS INJECTIONS OF SILVER (COLLARGOL) IN ULCERATIVE ENDOCARDITIS.

BY MORRIS MANGES, M.D.,
OF NEW YORK;
PROFESSOR CLINICAL MEDICINE, NEW YORK POLYCLINIC MEDICAL SCHOOL; VISITING PHYSICIAN TO MOUNT SINAI HOSPITAL.

THE soluble silver salts which were introduced into the treatment of general sepsis by Credé have a distinct and definite value in a certain number of cases. The evidence on this point has been presented by many unbiased observers in different countries, and thus counterbalances the enthusiasm of many of its too ardent advocates. An autopsy which I witnessed several years ago afforded a very striking proof of the wide distribution of the silver salts within the body even when introduced through the skin. The case was one of general sepsis (under the care of Dr. Brettauer) in which unguentum Credé had been used for a number of weeks. However, in spite of all treatment the woman died. At the autopsy the most striking feature was the deep general bluish staining of the tissues, and especially of some of the abdominal viscera, which is so characteristic of chronic argyria.

My own clinical experience with unguentum Credé has been sufficiently satisfactory to warrant the belief that the remedy is a powerful agent in general sepsis, as claimed by Credé. To individualize and to definitely state in just what patients and in what class of cases success may be expected is, however, an impossibility.

The various phases of the silver treatment and the various modifications in its application, it is not my purpose to discuss, since Credé and others have presented the subject very fully. I wish to limit myself to the employment of collargol in septic endocarditis, as proposed by Wenckebach,* who reported two cases, both of which were quickly cured by the intravenous injection of 1-per-cent. solution of collargol.

Case I.—Boy, fifteen years old, developed an acute endocarditis during an attack of keratitis. The course was characteristic of an acute ulcerative endocarditis with irregular septic fever up to 39.5° C., enlargement of spleen and embolism of right forearm. Blood cultures revealed the *Staphylococcus albus* in the blood, four cultures being positive, three negative and one doubtful. He was admitted to the hospital on August 27, 1901. The first positive blood cultures were obtained on September 4 and the first intravenous injection of the 1-per-cent. collargol solution (= 12.5 milligrams of silver) was made. In all, nine injections were given, averaging 24 to 30 milligrams of silver. There was no bad reaction, and the fever disappeared immediately after the first injection, and the cardiac palpitation soon lessened. On October 4, 7, 10, and 13, he had brief rises of high fever with slight attacks of bronchitis. On October 13 the fever finally disappeared and did not return. After that the endocarditis improved rapidly, the palpitation lessened, the cardiac area diminished in size, the patient gained very markedly in weight, and was discharged cured at the end of December, 1901. No other drugs were used.

Case II.—Female nurse, twenty-one years old. Became anemic and weak in early part of November, 1901, and also complained of moderate palpitation. Later had a few paronychia on fingers which healed promptly. Finally had to go to bed on December 19. At first once daily, later twice daily, she had high rises of temperature (up to 40° C.). Wenckebach saw her for the first time on December 29; she was then quite delirious; pulse 118; slight increase in cardiac area; heart sounds weak; "first aortic sound impure and somewhat prolonged." On the back of the right hand and over the right hip were painful, reddened ulcers (embolisms?) which disappeared spontaneously in a few days. Spleen enlarged to percussion but not palpable. Blood culture negative. In the absence of any other discoverable lesion, the diagnosis of septic endocarditis was made. An intravenous injection of two-per-cent. solution of collargol (= 50 milligrams of silver) was immediately given, and followed by a similar one on the next morning. The fever immediately fell from 37.2° C., and did not return; the general condition was at once improved, and apparently the patient was cured.

Klotz* has also published a case of septic endocarditis cured by intravenous silver injection. The patient was a twenty-seven-year-old woman who suffered from articular rheumatism following an attack of tonsillitis; this was accompanied by a severe endocarditis with marked septic symptoms. Systolic apex murmur with cardiac enlargement; pulse 160; spleen could not be palpated on account of tenderness; temperature 39° C. Klotz saw his patient for the first time on March 12, 1902, although her illness dated back to February 5 (original tonsillitis; first rheumatic symptoms March 7). On March 13 he gave an intravenous injection of one-per-cent. collargol (nine centigrams). Decided relief followed this, but it was only temporary and as, on the following day the fever had risen to 39° and pulse to 140, a second injection was then given (eight centigrams). One hour after this there was a severe chill, with rise of temperature to 40.2°, but subsequently patient felt better, slept five hours, and temperature on following morning was normal, and pulse 84. The fever having returned on March 15, a third injection was given (seven centigrams). No chill after this, and the rise of temperature only moderate. Patient rapidly im-

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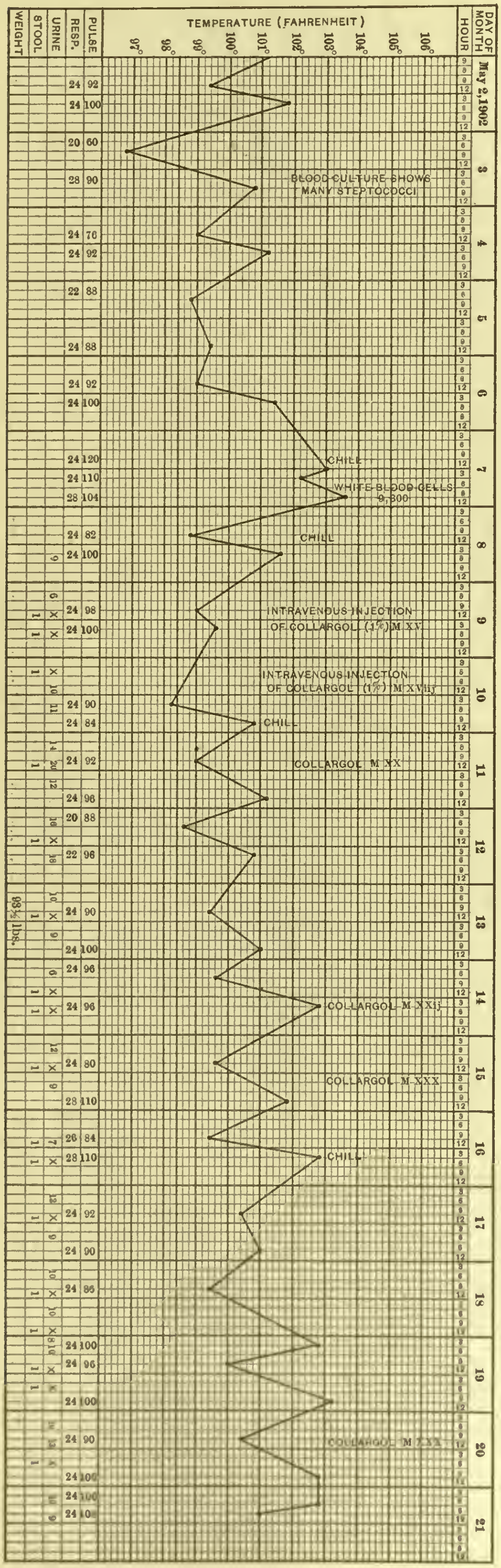
* Therapie der Gegenwart, Feb., 1902, p. 65.

* Deutsche med. Wochenschrift, July 17, 1902, p. 524.


WEIGHT
STOOL
URINE
RESP.
PULSE
TEMPERATURE (FAHRENHEIT)
97° 98° 99° 100° 101° 102° 103° 104° 105° 106°
HOUR
DAY OF MONTH
May 2, 1902
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
BLOOD CULTURE SHOWS MANY STEPTOCOCCI
CHILL
WHITE BLOOD CELLS 9,300
CHILL
INTRAVENOUS INJECTION OF COLLARGOL (1%) M XV
INTRAVENOUS INJECTION OF COLLARGOL (1%) M XVIIJ
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COLLARGOL M XX
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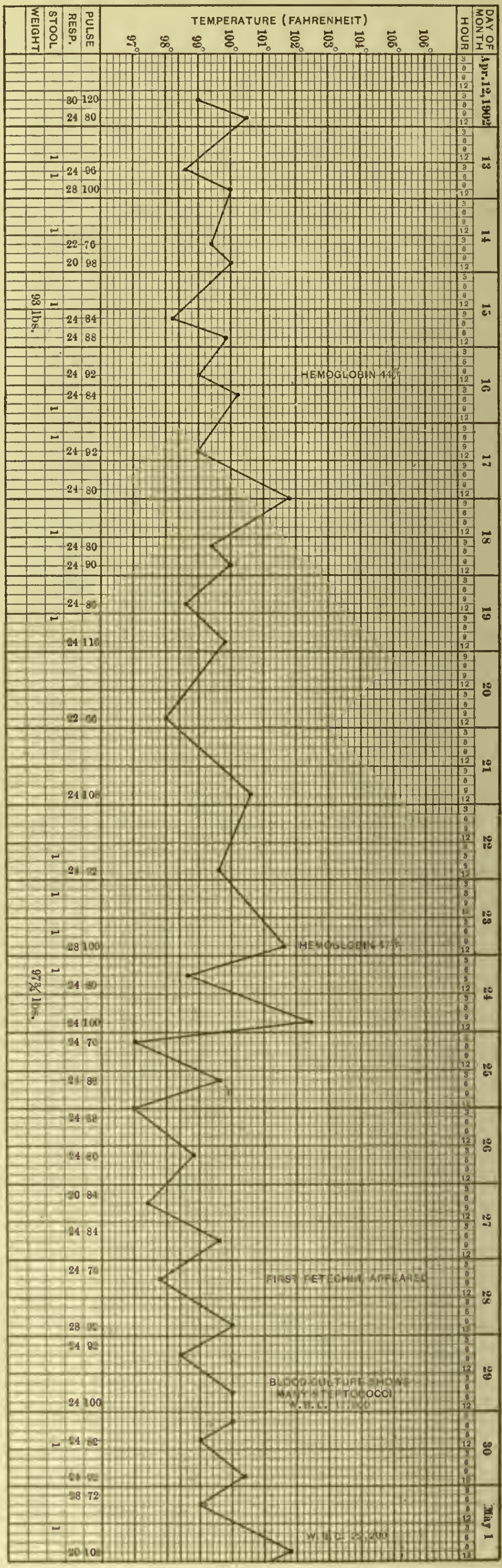
CHILL
COLLARGOL M XXX


WEIGHT
STOOL
RESP.
PULSE
TEMPERATURE (FAHRENHEIT)
97° 98° 99° 100° 101° 102° 103° 104° 105° 106°
HOUR
DAY OF MONTH
Apr. 12, 1902
13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
May 1
93 lbs.
HEMOGLOBIN 44%
HEMOGLOBIN 44%
97¾ lbs.
FIRST PETECHIÆ APPEARED
BLOOD CULTURE SHOWS MANY STEPTOCOCCI W. B. C. 17,000
W. B. C. 22,200

proved, the systolic murmur was no longer to be heard after March 20, and the patient made a complete recovery.

Such results, especially as in the first case, are sufficiently striking to warrant further trial of the collargol injections. My own experience in ulcerative endocarditis had unfortunately been the same year after year in spite of all the various treatments employed. The only ray of hope I saw was that offered by the results of an autopsy of a rapidly fatal case of this kind. Eight or nine years ago when the aniline dyes were the fashionable specifics against all kinds of sepsis, I used methylene blue in a very severe case of ulcerative endocarditis. Death occurred in spite of the free use of this dye for 10 days (five grain capsules every three hours). At the autopsy a very striking picture was revealed: the large masses of fibrin and the underlying ulcers were deeply stained blue, while the normal endocardium was uncolored. The sections of these stained tissues showed very numerous colonies of cocci which were deeply colored blue. However, not a single case of ulcerative endocarditis in which I subsequently used methylene blue recovered.

I have used the collargol injections in only two cases of ulcerative endocarditis; the results in both cases are so strikingly unlike the few reported cases of success that their publication may not be without interest.* The cases were well suited for the treatment since in both the diagnosis was established by the ordinary history and symptoms; furthermore the presence of petechiæ and the repeated demonstrations of streptococci in the blood, and the blood counts, both before and during the period of the injections of the collargol render them particularly valuable for determining the value of these injections.

Case I.—Jos. S., Russian, eighteen years old; was admitted to my service at Mt. Sinai Hospital, March 25, 1902; hospital No. 71,470. For a month preceding his admission he had had vague rheumatic symptoms, and especially pain in the lumbar region. On examination double mitral and aortic murmurs with characteristic changes in heart and pulse were discovered. Liver, spleen and lungs negative. After a few days his moderate, irregular fever rose, and since then has been of a high, irregular septic type. For irregular intervals it would be lower, but later it would again rise. There were no chills. Pulse ranged between 86 and 100; respiration 26 to 32. On April 2, hemoglobin was 68 per cent., white blood cells 36,000. Spleen enlarged and palpable one inch below free border.

April 7, white cells 10,600; April 16, 11,000. General condition being unchanged in spite of all treatment, collargol intravenous injections were begun. April 16 and 17, 20 minims; April 18 and 19, 24 minims. General range of temperature seems somewhat lower, but no change in the general condition.

On the latter date petechiæ were observed for the first time, two being located on the right conjunctiva, and several on both palms. Blood culture taken on that day grew many colonies of streptococci. Hemoglobin 77 per cent.; white cells 15,000. Weight 92¾ lbs.

April 22 injected 29 minims; 24, 30 minims; 25, 32 minims; white cells 12,000; spleen larger by two finger-breadths. April 26 and 27, injections of 32 minims; 28, 35 minims; weight 95 lbs. April 29 and 30, 32 minims; temperature range slightly lower. May 1, 2, 4, 5, 6, 8, 9, 10, 11, injections of 30 to 35 minims; on May 13, 15 minims was the amount of the last injection given.

There was no special change except such as may occur during the course of the disease. On May 3 blood cultures grew numerous colonies of streptococci after 12 hours; and on the same date fresh petechiæ appeared on the right conjunctiva. May 5, petechiæ in right eye and mouth; weight 89¼. May 8, hemoglobin 60 per cent.; May 12, 50 per cent.; white cells 16,200; weight 94 lbs. May 20, few streptococci grown with difficulty in blood culture taken one week after the cessation of the injections. May 29, mycotic aneurism in left posterior tibial artery.

The subsequent course of the case up to the present time (August 12, 1902) was that which is so characteristic of the chronic ulcerative endocarditis and its varied septic phenomena. Especially interesting, in addition to the mycotic aneurism noted above, were venous thrombosis in the left cubital fossa; embolism in the right popliteal and left external carotid arteries. Infarctions also occurred in the spleen and kidneys.

In spite of the 26 injections the disease pursued its course unchanged. The streptococci grew vigorously in all the cultures, the white cells remained high in number, the percentage of hemoglobin gradually fell, and the intensity of the sepsis may also be readily inferred from the occurrence of the mycotic aneurisms and the other vascular phenomena.

The patient was discharged at his own request September 1, 1902, his condition being unimproved.

Case II.—Johanna M., eighteen years old; bookkeeper. Admitted to my service at Mt. Sinai Hospital, April 12, 1902; hospital No. 71,606. Previous history negative except acute articular rheumatism. First attack was nine years ago and lasted nine weeks after having involved all the large joints. Since then she has had mild attacks every winter. Has had mild dyspnea for some time. Present history is of four months' duration. Six weeks before admission severe dyspnea and cardiac palpitation. One week ago attack of iritis. At present joints are normal. Examination shows characteristic mitral regurgitant murmur. Heart action regular. Liver enlarged to two finger-breadths below the costal border; no spleen.

April 28, petechiæ appeared on anterior surface of chest and arms, right foot and on conjunctiva of lower lid; heart same, except some irregularity;

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* Although this treatment was also used in other cases of sepsis, I shall not now enter into any discussion of the results.

liver about same, but spleen now palpable one-half inch below free border; its lower border tender. April 29, few petechiæ on lower lip with new ones on arms, forearms and chest; blood culture shows many colonies of streptococci. April 30, fresh crops of petechiæ in old areas and also in palms and hypothenar eminences. May 3, better; fewer petechiæ; blood cultures with same result. May 5, fresh petechiæ on hard palate; May 7, chill followed by fever to 103.8°F.; pain in knee. May 8, chill. May 9, first injection of one-per-cent. collargol (15 minims) into left median basilic vein. May 10, second injection, 18 minims; followed by chill. May 11, third injection, 20 minims. May 14, fourth injection, 22 minims. May 15, fifth injection, 30 minims. May 17, fresh petechiæ on both conjunctiva and on mucous membrane of cheeks; general condition good. May 18, another crop of petechiæ; small hematoma on buccal mucous membrane; heart and spleen same. May 20, sixth injection, 30 minims. May 21, condition unchanged, and patient was discharged at her own request, unimproved.*

The injections, as a rule, are comparatively painless except when the cannula accidentally missed the vein and thus allowed the solution to enter into the surrounding tissues. This pain was very severe and lasted several hours. This accident was often unavoidable since the veins are not always readily found in these cases. The available venous area for injection is not unlimited and the fact that every available superficial vein had been injected was the cause of the suspension of the treatment in Case I. The technic of this treatment may be found in Credé's paper in *Berliner klin. Wochenschrift,* No. 37, 1901, p. 943. In this paper Credé gives an excellent résumé of his silver treatment.

There were no unpleasant after-effects of the treatment except moderate chills which frequently occurred three to six hours after the injections. This has been noted by Credé and others who have used this treatment. According to Credé, chills do not occur if the solution is filtered or carefully decanted. Another feature to which attention may be called is that in Case I there were painful thrombosed areas in some of the injected veins, some days after the injections had been made.

The occurrence of mycotic aneurisms in Case I after the patient had had 26 large injections, the persistence of the streptococci in the blood during the course of the treatment and the fresh crops of petechiæ, and the failure of the injections to modify the course of the disease in these two cases, show that the ideal treatment of ulcerative endocarditis is still to be discovered. There are undoubted cases of recovery from this dread disease, the most recent evidence of which has just been presented at the last meeting of the Association of American Physicians, where Herrick's cured case evoked a discussion in which a number of other apparent cures were reported by Thayer, Kinnicutt, Janeway and Shattuck. It is exceedingly difficult to say whether such cases are really cured or are merely latent.*

There is another difficulty in judging these cases, namely from a diagnostic standpoint. Many cases of general sepsis with endocardial or pericardial murmurs are undoubtedly reported as being cases of ulcerative endocarditis. Jürgensen has again directed attention to the occurrence of pseudo-endocardial and pericardial murmurs in general sepsis, and it is possible that some of the reported cures may be explained on this basis.

Although the experience in the two cases reported above is gloomy, and distinctly opposed to the three cases of Wenckebach and Klotz,—the latter's case and Wenckebach's second case being by no means above criticism,—yet in a disease in which the prognosis is so bad, further and more extended trials of this new method are warranted before passing final judgment upon its value.

REMARKS ON ONE OF THE COMPLICATIONS OF ANESTHESIA (ASPHYXIA).†

BY THOS. L. BENNETT, M.D.,

OF NEW YORK

THE most frequent of the complications of anesthesia, one that is present to some extent in a large majority of all administrations and which is a factor of annoyance, concern and occasionally of well-founded alarm, is asphyxia. The word asphyxia is not used here in its literal sense alone, of death through the respiration, but rather denoting the condition produced by a lessened percentage of oxygen or an increased percentage of carbon dioxide, or both, in the blood. This state is produced in a number of ways during the administration of anesthetics.

1. By the simple exclusion of oxygen, as in the inhalation of pure nitrous oxide or highly concentrated ether vapor.

2. By paralysis of the respiratory center from over-narcosis, producing failure of the respiration.

3. By the production of a condition, the exact nature of which is unknown to the writer, a condition in which cyanosis is marked notwithstanding free respiration and no exclusion of oxygen. This most frequently complicates the administration of chloroform and is usually associated with some circulatory depression. Close observation of this phenomenon has led the writer to believe that it is due either to a paralyzing effect of the anesthetic upon the blood corpuscles, suspending their function of carrying oxygen and carbon dioxide, or to failure of the pulmonic circulation, this in turn being due to depression of the cardiac and vasomotor mechanism or to paralysis of the walls of the pulmonic vessels, resulting in such

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* It has since been learned that this patient died five weeks after admission to the Montefiore Home.

* N. Y. Med. Record, May 10, 1902. Herrick's interesting paper, which has since been published in MEDICAL NEWS, Sept. 6, 1902, contains a number of undoubted cures.

†Read before the Society of Alumni of Bellevue Hospital, Nov. 5, 1902.

inefficiency of the lesser circulation that proper aeration of the blood is not accomplished.

4. Asphyxia complicating anesthesia is most frequently produced by mechanical obstruction to respiration resulting from: (*a*) narrowing of the air passages from within, examples of which are met in cases presenting tuberculosis, carcinoma, papilloma, etc., of the larynx, laryngeal diphtheria, edema of the glottis, hypertrophied tonsils, tonsillar abscess, growths of the pharynx, tongue or jaws, nasal polypi, adenoids and other nasal growths, hypertrophied turbinates, deflection of the septum and similar conditions. I wish to call especial attention to a form of obstructed respiration caused by swelling of the tissues about the glottis as a result of the congestion of these parts set up by the anesthetic. Hewitt has shown that marked narrowing of the air-way is produced in this manner; (*b*) narrowing of the air-passages from without, as a result of pressure, is met in cases presenting enlarged glands or other tumors of the neck, mediastinal region, pharynx or esophagus and in abscess or cellulitis about the neck, mouth or pharynx; (*c*) other forms of pressure upon the respiratory organ occur in distention of the abdomen from tumors, ascites, tympanites, intestinal obstruction, etc. Lung compression from pleuritic effusions, empyema and pneumo-thorax furnishes one of the most dangerous forms of obstructed respiration and we must not overlook the exceedingly important fact in these cases, that if one lung is collapsed by pleuritic distention, the other lung must take care of the entire lesser circulation and that while performing this excessive function, the lung and the heart are easily embarrassed; (*d*) diseases of the lung limiting respiratory capacity, such as bronchitis, pneumonia, tuberculosis and emphysema, favor the production of asphyxia during anesthesia. Pulmonary edema from rapid lung congestion following removal of pleuritic fluid, is a positive danger in these cases; (*e*) certain positions required for the proper performance of the operation are often such as to obstruct the respiration. Patients who habitually lie with the head and shoulders well-elevated are usually embarrassed in their breathing if they assume the horizontal posture and this is especially true of those who already have difficulty of breathing on account of some pathological state. The Trendelenburg position in patients who are distressed by abdominal distention is usually accompanied by considerable asphyxia. The knee-chest and prone positions often interfere with efficient respiration. The position of the head, jaw or tongue desired by the operator frequently causes obstruction to respiration, especially flexion or twisting of the head, flexion of the jaw and depression and backward displacement of the tongue. (*f*) Operative manipulations not infrequently interfere with the respiration by distortion, pressure or fixation of parts of the respiratory mechanism. To limit or prevent the normal respiratory rise and fall of the larynx obstructs the respiration in a marked manner, also retraction or packing of wounds in the neck in some instances. Manipulations interfering with the movements of the chest and diaphragm, as in operations about the ribs, stomach and liver, may cause pronounced obstruction to respiration, especially to expiration which is for the most part a passive act and easily overcome. It must be borne in mind that obstruction to expiration will cause asphyxia as well as obstruction to inspiration; (*g*) foreign bodies in the air-passages frequently obstruct the respiration during anesthesia. They may be present before the administration or enter during it. The most common examples of the latter are, mucus and saliva, products of vomiting, blood and other matter resulting from operations about the air-ways. Special attention is called to obstructed respiration from pulmonary edema which the writer believes is quite common in its lesser degrees as a result of crowding ether. The so-called bronchorrhea of etherization is probably pulmonary edema on the one hand or mucus and saliva drawn into the air passages on the other, the latter being very common, especially in children; (*h*) another form of obstructed respiration occurs from stertor and stridor, the former being usually a result of over-narcosis or some degree of asphyxia, the latter being reflex and usually denoting a somewhat light narcosis. Laryngeal spasm occasionally occurs during anesthesia and greatly obstructs the respiration, occurring early in the administration, it seems to be directly connected with the strength and pungency of the vapor, later, during the period of general muscular rigidity it is apparently part of that condition. It is also caused by the entrance of foreign matter into the larynx, as mucus, vomited material and particularly a bile-stained fluid from the stomach, which causes prolonged spasm, laryngeal and apparently bronchial; (*i*) some types of patients are especially prone to obstructed respiration during anesthesia, notably those having short, thick, muscular or fat necks. Patients with anchylosis of the jaw and of the cervical vertebræ often suffer from more or less asphyxia during anesthesia and are considerably endangered thereby. The presence of a perfect set of teeth often favors the production of asphyxia by effectually closing the oral air-way during periods of rigidity or light narcosis when the jaws may be firmly closed. A long thin nose, with slit-like orifices may obstruct the respiration by valve-like closure on inspiration. Patients with preexisting dyspnea from any cause are very liable to asphyxia during anesthesia and all forms of obstructed breathing before the administration of an anesthetic, tend to become more complete under it.

The signs of asphyxia may be conveniently classified according to the parts of the system from which they arise. The respiratory system is deeply involved in asphyxia, undergoing remarkable changes and giving rise to striking signs of that state. Whether asphyxia is caused by a deficiency of oxygen or an excess of carbon dioxide in the respired medium, or by suspension of the respiration, the first respiratory effect is hyperpnea, an increase in the respiration involving rate, depth and force. If the supply of oxygen is normal but of carbon dioxide moderately excessive, simple hyperpnea may continue for hours, but is finally succeeded by gradual respiratory failure, coma and death, without convulsions.

In deprivation of oxygen on the other hand, the respiratory increase is progressive and upon reaching an excessive point changes in character: heretofore inspiration has been most active, now, "expiratory movements become increased out of all proportion to the inspiratory, so that finally respiration is made up of a series of prolonged expiratory convulsions, separated by short inspirations." Oxygen remaining absent, after a brief interval of this form of respiratory effort, there is a sudden prolonged cessation, usually at the end of expiration. This may be repeated several times before death or give way to slow deep inspirations which in turn become shallower and shallower and finally cease.

The circulatory system also takes an active part in asphyxia and furnishes prominent signs of that state. Cyanosis caused by veinosity of the arterial blood is the very index of asphyxia and is perhaps its most conspicuous sign. It may be present in any degree from slight duskiness to intense purple or bluish lividity. In the early stages of asphyxia, corresponding to hyperpnea, the heart's action is increased in rate and force, the arterial blood pressure rises and the pulse is correspondingly altered. Very soon, however, the heart's action becomes slowed and its cavities dilated. The heart is now rapidly affected by distention and lack of oxygen, its contractions become feebler and the emptying of its chambers more and more imperfect, till its dilatation reaches an enormous degree, the heart "actually bulging out between the split sternum" in animals the subjects of experiments in asphyxia. The blood pressure is rapidly lowered and the heart gradually ceases to act, all its cavities, especially the right, distended with blood.

The Muscular System.—During the earlier stages or slighter degrees of asphyxia the increased action of the muscles of respiration constitutes the chief sign referable to this system. As dyspnea deepens, respiratory effort increases till nearly every muscle in the body is involved. Clonic spasms now appear in the muscular system generally, at first producing slight twitchings most noticeable in the extremities but also involving the muscles of respiration and producing jerky, interrupted breathing. The clonic spasms increase till they amount to general convulsions. Later, tonic contractions occur, producing marked rigidity and often great distortion of parts. The rectum and bladder are usually emptied at this time. The nervous system plays a prominent though inconspicuous part in asphyxia. Its action is apparent in all of the reflex, muscular and vasomotor changes already enumerated. In the lesser degrees of asphyxia complicating anesthesia the nervous system is abnormally alert, there is general restlessness and the reflexes are exaggerated. Early, the pupil is contracted, though in profound asphyxia it is widely dilated.

Such in brief are the leading signs of asphyxia and I venture to say that they constitute the greater part of all the annoying, distressing and dangerous factors in anesthesia. The continuous administration of pure nitrous oxide will cause this entire succession of signs to appear and death to ensue in about one minute in an average patient. In this instance the various signs and stages pass rapidly. The asphyxial complications of ether and chloroform anesthesia are as a rule less rapid in their development and rarely reach the degree commonly seen with gas but they are present to some extent in most administrations.

In applying these facts to anesthetized subjects care must be exercised not to confound the signs of incomplete or excessive narcosis with those of asphyxia. This is not always a simple matter and when in doubt must be tested by acting according to one supposition or the other.

Given a proper degree of narcosis, the following complications of anesthesia are, for the most part, to be attributed to some degree of asphyxia: Respiration excessive in rate, depth and force with marked flexion of the chin on inspiration and great tendency to stertor. Cyanosis, noticeable early in the lobe of the ear and in prominence of the superficial veins. Undue exaggeration of the heart's action, the pulse remaining too rapid and of a sharp, tense character, the tissues unduly vascular, congested and dark. The muscular system active, especially that of respiration rendering the movements of the abdomen and chest excessive and rigidity of the former marked. General muscular rigidity of a persistent character seen especially during the early "pushing" of ether. Athetoid movements of the finger, squinting of the eyes, wrinkling of the forehead, slow twitchings about the mouth, pursing up or closure of the lips, rigidity of the jaw and head, general restlessness, vacillating pupils, unnatural activity of some of the reflexes. These and other signs are the annoying factors of anesthesia, and if neglected may lead to more serious states. The effect of abnormal veinosity of the blood, unnecessary force and rapidity of the heart's action and of the respiration, together with general muscular activity, restlessness, exaggeration of the reflexes and other asphyxial phenomena continued throughout a long and critical operation must add greatly to exhaustion and shock and may often act as "the last straw" which decides against recovery.

The treatment of asphyxia complicating anesthesia is the least part of the subject, for a proper realization of the reality and importance of the matter will lead to its prevention and this is the solution of the problem. The patient must not be allowed to suffer from deprivation of oxygen or to breathe an excess of carbon dioxide or to have his respiration obstructed and whenever these factors are necessarily present to some extent it should be seen to that as little additional tendency to asphyxia is added as possible. The general principles to be observed in carrying out this preventive treatment are briefly as follows: Unobstructed respiration should be obtained by maintaining an open air-way, by avoidance of conditions preventing free respiratory movements, by the selection of the proper anesthetic and by its administration in such a way as not to limit the supply of oxygen or increase the percentage of carbon dioxide to the extent of producing signs of asphyxia. Anesthesia by nitrous oxide alone or mixed with air or with oxygen is the form of anesthesia most frequently complicated by asphyxia, this is the chief risk of the administration and patients who should not be exposed to this risk should have some other anesthetic. Anesthesia by ether stands next in this respect but there are very few persons who can not be satisfactorily anesthetized with ether given with a sufficient admixture of air. There are some patients however who will suffer from the deprivation of oxygen resulting from the rather high percentage of ether vapor that it is necessary to mix with air in order to produce anesthesia, and these patients should have ether only when mixed with air containing an increased percentage of oxygen, otherwise they should have chloroform in some form. Chloroform is given in such small percentage that it can of itself hardly cause asphyxia by air exclusion and in this respect it is the choice when this factor is of chief importance. Whenever a certain degree of asphyxia necessarily complicates anesthesia, much may be accomplished in its relief by the administration of oxygen throughout the narcosis. The relief of excessive asphyxial states occasionally produced during anesthesia, calls for such measures as, forcing open the mouth, pulling forward the tongue, the performance of artificial respiration, the performance of intubation or tracheotomy. The last should not be too long delayed.

17 West Ninetieth Street.

A NEW COMPACT PORTABLE OPERATING TABLE.

BY HOWARD LILIENTHAL, M.D.,

ATTENDING SURGEON TO MOUNT SINAI HOSPITAL, NEW YORK.

When operative work must be done in a private dwelling it is the aim of the surgeon to make his surroundings as far as possible like those of his regular workshop, the Hospital operating room. His instruments, gowns, dressings, sponges, sutures and other supplies he either brings with him, or they are purchased at the drug store. Much of the apparatus necessary for the operation may be improvised with fair satisfaction, but all such improvisations, no matter how clever they may be, are, after all, makeshifts and are not to be compared in usefulness

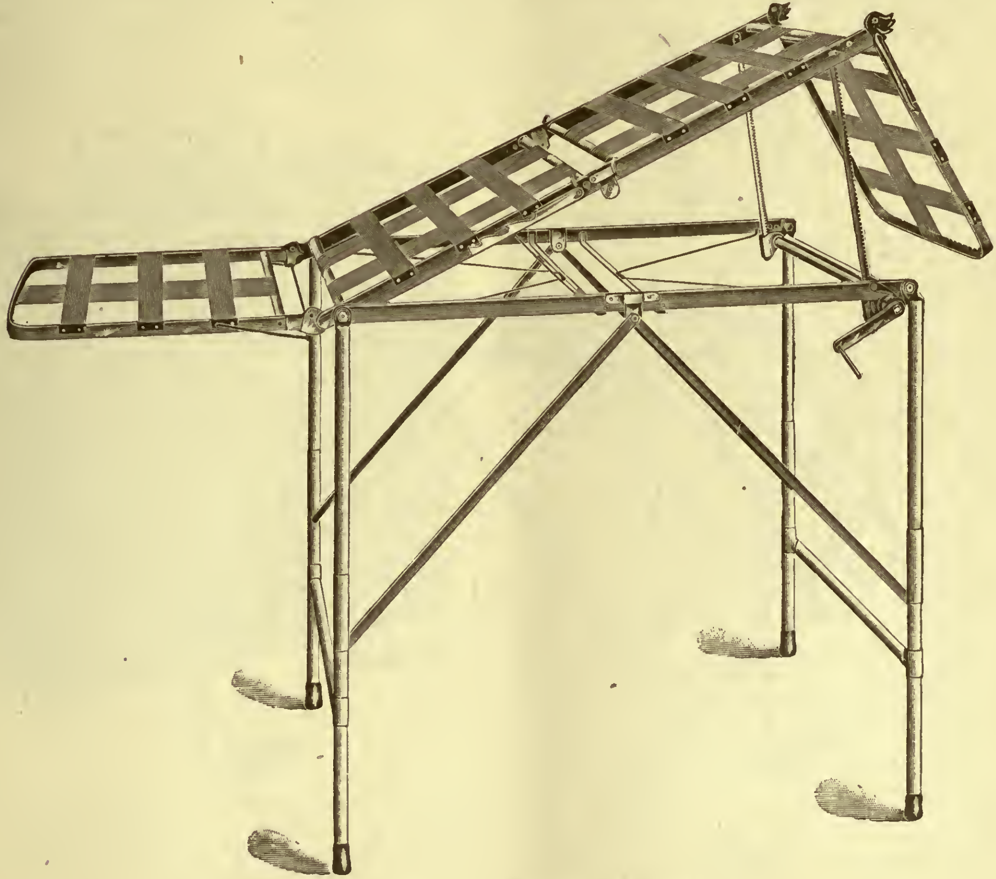

Fig. 1. For Trendelenburg Posture.

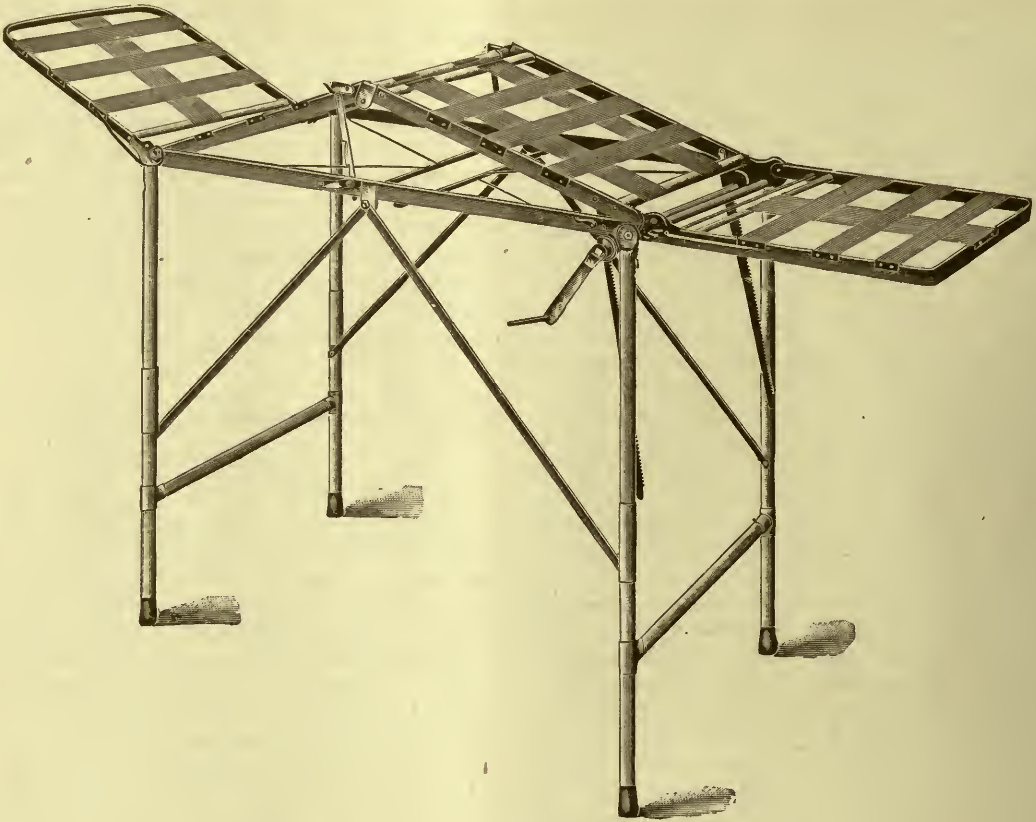

Fig. 2.

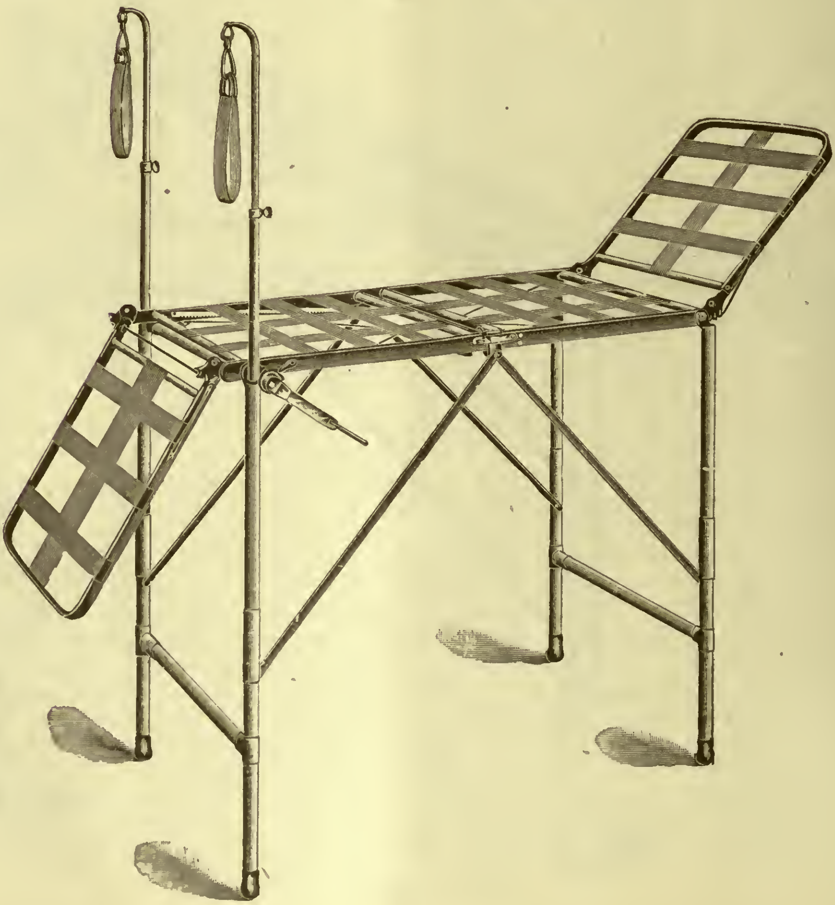

Fig. 3.

and convenience with the articles which they supplant.

The table upon which the patient lies during the operation is usually procured from his kitchen or dining-room and in many instances this does well enough, even though it is so short that extension with another smaller table or some similar contrivance has to be resorted to in order that the individual may recline at full length. Such tables are often too wide for comfortable work on the part of the assistant who has to stand opposite the operator. There are numerous other disadvantages which will readily suggest themselves.

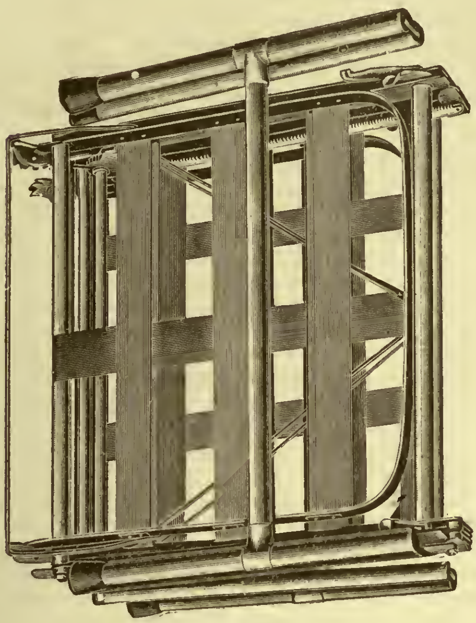

Fig. 4. Folded.

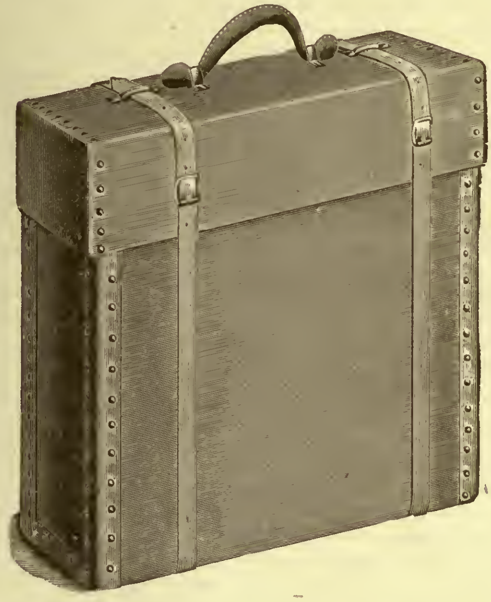

Fig. 5. Packed for transportation. Weight, 36 pounds.

The portable operating table here presented is strong, light and more compact than any other with which I am acquainted. It has been thoroughly tested and has given satisfaction. The Trendelenburg position (Fig. 1) is easily and simply secured and the table permits of another position which, so far as I am aware, has never been possible without the help of cushions or pads of some kind. I refer to the raising of the middle sections of the top (Fig. 2), so as to form a double inclined plane upon which the patient lies on his side for operations about the kidney. This position can be secured without the necessity of lifting the patient from the table. The head-piece and the foot-piece can be completely lowered and can be raised to a considerable degree (Fig. 3). The entire table, from foot to head can be tilted so as to invert the patient in the event of sudden collapse. There are no bracing pieces near the floor, which are liable to be buckled by the foot of a careless assistant.

The weight of the table alone is 28½ pounds. With the leg holders and in its case ready for transportation it weighs 36 pounds. The case is 8 inches wide and measures 21½ inches in the other dimensions. The table is 6 feet long, 18½ inches wide and it is made in various heights, the one here presented being 33 inches. The double-inclined plane can be raised to a distance of about six inches from the level of the top. The table was made for me by the Hospital Supply Company.

766 Madison Avenue.

MEDICAL PROGRESS.

MEDICINE.

Syphilitic Tumor of the Pelvis Simulating Malignant Growth.—A clinical history presented by A. Fournier (Bull. de l'Acad. de Med., Oct. 21, 1902) relates to a pelvic growth in a man thirty-four years of age. The patient was referred to the writer with the diagnosis of inoperable sarcoma; a large growth occupied the space between bladder and rectum, producing intolerable pressure symptoms connected with both organs. The growth could be palpated abdominally, extending two fingers' breadth above the pubis. There was no appreciable enlargement of neighboring lymph nodes. The personal history threw no light on the cause of the growth. The patient denied syphilis and no evidence of the disease was revealed by examination of skin, mucous membranes or osseous system. The family history, however, showed a singularly large infantile mortality—among 15 children 12 died at an early age. The patient himself showed no sign whatever of hereditary syphilis. There was nothing to lead to the suspicion of hereditary taint except the family history of excessive infantile mortality. At this stage examination of an elder brother by an ophthalmologist discovered retinal signs of syphilis, and mixed treatment for the patient having the tumor was resolved upon. Injections of benzoate of mercury with potassium iodide were followed within two weeks by signs of resolution; in 20 days the growth had lost one-third of its original dimensions; in two months it had disappeared. This is the first case of the kind ever seen by Fournier; and

Guyon, whose observations have been equally extensive, is not aware that he has ever seen a parallel case. The appearance of this large and rapidly growing pelvic gummatous cellulitis, suddenly developing in a man of mature years, was the very first and the only sign in this patient of hereditary syphilis.

Tuberculosis from the Assimilation Standpoint.—From the study of proteid assimilation and disassimilation in patients, and experiments with dogs, J. MITULESCU (C'blatt f. Inn. Med., Oct. 25, 1902) believes that the ability of the cell to counteract the tubercle infection is dependent upon its ability to preserve a surplus of proteid matter. This enables the system to produce substances antagonistic to the bacilli, and connective tissue to shut off the lesions. If the cells have inherited or acquired a weakened vitality it is impossible for them to take in and transform as much protein as is required of them, and the bacilli flourish, increase the lesions, break down the tissues, make way for other bacteria, especially the streptococcus and influenza bacilli, which tend to produce more acute disease, and the individual succumbs. From a prognostic standpoint there are three periods, viz.: the development or growth period, the stationary, and the period of organic degeneration. In the first period the lung-infection is characterized by a few uncertain manifestations, more or less indicating a slight toxemia. Here the diagnosis can be made certain only through the use of tuberculin, and the cure is easily possible. In the second period, certain local signs inform us of a lung lesion and the bacillus can usually be found in the sputum. By rational treatment a condition of cell-compensation is maintained, and the organism remains in about a stationary condition, neither improving very much nor becoming worse. But here the resistance of the body may be lessened at any time by any new demand on the tissues, and then the disease makes rapid headway. In the third period where the bacillus is associated with other bacteria, cellular disassimilation is increased, and in spite of all treatment the patient goes down hill. The author found that so long as the nitrogenous material administered exceeded that found in the feces and urine there was no emaciation, but that shortly after the excreted nitrogen equaled or exceeded the nitrogen ingested, the body rapidly failed.

Stercoraceous Vomiting of Hysterical Origin.—A case is reported by F. FAZIO (La Rif. Med., Oct. 29, 1902) in which stercoraceous vomiting replaced the fecal evacuation by rectum; subsequent developments demonstrating the hysterical nature of the affection. The author holds that stercoraceous vomiting cannot be explained entirely upon the theory of reversed peristalsis, but that a real obstruction in the intestinal canal is responsible for the trouble; this may be simply in the nature of intestinal spasm, or a real paralysis may exist as in nervous spastic ileus and nervous paralytic ileus. In sudden cases, not preceded by constipation, the vomiting is probably attributable to intestinal spasm; in those of gradual development, preceded by constipation, to paralysis. Treatment is psycho-suggestive.

Eruptions Following Injections of Diphtheria Antitoxin.—Such eruptions are relatively frequent says G. CARRIÈRE (Nord Méd., Nov. 1, 1902) who classifies them under the heads of urticaria, morbilliform scarlatinaform and polymorphous erythema, purpura and prurigo. These eruptions are said to bear no relation to the amount of serum injected nor to associated micro-organisms, but they are believed to be in some degree an indication of the gravity of the diphtheria, the phenomena being of more frequent occurrence in severe cases. The author states that such eruptions are of short duration, may appear early or in the more advanced stages of the disease, and require but simple treatment such as tepid starch-baths, dusting with talcum powder and slight purgation.

Tapeworm as a Cause of Diabetes.—Two cases of tapeworm are reported by J. E. JUDSON (The Lancet, Nov. 8, 1902) associated with glycosuria. The coincidence of the two diseases led him to infer the possibility of a direct causal relation between the worms and the other disease. The theory which occurred to him was that the head of the tapeworm might possibly get into the pancreatic duct and become well fixed to the wall by means of hooklets, and through the inflammatory change, which it would produce, cause an occlusion of that duct. Extirpation of the pancreas brings on glycosuria in animals, owing to the absence of the internal secretion, the presence of which is necessary in order that the normal assimilative processes can take place with the glycogen. If the duct be occluded the gland will in time atrophy and become useless. This would then exhibit the same condition as if it had been extirpated. He says he is well aware that it may be considered rash to advance such a theory on so little evidence, but can quite see the possibility of the symptoms of diabetes, which in the two cases he reported, were only discovered on examining the urine—being overlooked unless an examination had been made; and he thinks that not many practitioners who were treating patients for tapeworm would examine the urine for sugar without some subjective indications.

Saline Infusion in Purpura Hemorrhagica.—Purpura hemorrhagica has been looked upon for years, in its frank forms, as an almost invariably fatal condition. On the theory of diluting the poison within the blood which causes the bleeding, V. G. ALGNINE (La Sem. Med., Oct. 22, 1902) has injected normal salt solution beneath the skin. In one case, which he reports, in which the ordinary therapeutic measures, *i.e.*, ergot, chloride of iron, essence of turpentine, ice-packing of the nose, etc., had failed, he found improvement to begin immediately after the first injection, which consisted of about one pint. Within three hours there was a sensible decrease in the quantity of blood within the urine, and within five hours there was no hemorrhage whatever within the conjunctiva. Under the action of three new injections, respectively of 300 and 500 cubic centimeters, with intervals of three days between each, all blood flow was arrested. Subcutaneous ecchymoses began to absorb, and the general condition of the patient underwent a distinct improvement. This writer thinks that not only did dilution of the poison by the salt solution avail, but also the well-known stimulation by it of all the emunctories of the body by which the toxins were thrown off.

Therapy of Nervous Affections of the Heart.—In most cases of cardiac neuroses, the physician will be called in to minister to the patient during the attack. It is then his duty, according to G. A. GIBSON (Edinb. Med. Jour., Nov., 1902), to ascertain if there be any attendant condition underlying the paroxysm. This considerable acidity of the stomach or moderate distention of the hollow viscera may be a reflex cause of the cardiac pain and interference with the blood-current through the lungs is an adequate agent in other cases. Of drugs, amyl nitrite is of the greatest usefulness in terminating many attacks; by some, butyl nitrite or ethyl iodide is preferred but all have the same disadvantage of occasionally causing headache and giddiness. The administration of powerful stimulants is often necessary and sometimes morphine or even general anesthetics, must follow these. Respiratory exercise is also useful during the paroxysm and there can be no doubt that deep respiration does to some extent alleviate the suffering in many cases, especially where there is extreme arterial pressure or marked cyanosis. The employment of massage, in the case of patients who are unable to take much active exercise, is of the highest value. In organic types of the affection, the cause must, if possible, be removed by the use of alteratives, aided if necessary, by cardiac tonics and vaso-dilators. Among the alteratives none approach the iodides in value. If the potassium salt is not borne well, hydriodic acid may be used. In those cases of cardiac pain, resulting from previous debilitating disease, or from simple strain, the treatment is that of cardiac failure. In turning to the varieties of cardiac pain dependent upon toxic conditions, it may be easy to determine the nature of the poison, as in the angina pectoris following influenza, but, on the other hand, it may be very difficult to discover the secret poison in those forms which depend upon tobacco, alcohol, irregular gout, etc. Elimination of the poison, restoration of cardiac energy and strengthening of the general nervous tone are the three points to bear in mind here. Stimulation of the eliminative powers, baths, rest, with massage and passive exercise and strychnine do good. In the robust type of gouty diathesis, colchicum with the alkalis will be effective, in the asthenic type, guaiac with cinchona is helpful. In the reflex variety of angina pectoris, the cause of the disturbance must be removed and the bromides are in place. Vasomotor angina is most benefited by nitroglycerin and thyroid extract, and the neurasthenical and hysterical varieties yield to the general management of the conditions with which they are connected.

Human Actinomycosis in America.—All the reported cases of actinomycosis in man have been carefully studied by W. G. Erving (Bull. J. Hopk. Hosp., Nov., 1902). The cases are scattered widely throughout the country, though most are reported from large medical centers. Less than 20 per cent. come from the Southern States. Males were affected about three times as often as females. The youngest case reported was a child six years old, the oldest a man of seventy; most are in middle life. Concerning occupation there is a wide range, but 36 per cent. had much to do with live stock and grain. The chronic character of the disease was well shown by the fact that in 62 per cent. it lasted over six months. Usually there was no definite history of infection. The clinical characteristics varied greatly with the region of the body involved. In the cervico-facial and cutaneous as well as in many of the thoracic and abdominal cases, the first symptoms noticed were pain and swelling, though the pain was not often severe and may be absent entirely. Fever above 101° F. is rare and examination of the blood shows a leucocytosis, averaging 17,000. Injections of tuberculin failed to give a febrile reaction. Cervico-facial cases are often mistaken at first for toothache, in thoracic forms the first symptoms are those of bronchitis or pleurisy and abdominal cases often resemble appendicitis. The diagnosis should never be positive without the finding of the organism which occurs in the sulphur granules of the abscess contents. Although the progress of the disease is sluggish, extension is prone to follow by direct involvement of the contiguous tissues or by metastases. The prognosis depends largely upon the location of the disease, the pulmonary cases showing the highest mortality, the cervico-facial the lowest. In a large proportion of cases treated surgically, repeated operations were necessary and the best results followed complete excision. The action of potassium iodide is merely to bring about a solution of the cellular infiltration about the abscess cavity; it probably has no specific action on the ray fungus, since this has been found in the body tissues after months of systematic treatment.

OBSTETRICS AND GYNECOLOGY.

Diagnosis by Vaginal Examination.—It has become the fashion of the day to underestimate the need for, and to exaggerate the risks of, vaginal examinations during labor. W. Stephenson (Brit. Jour. of Obstet. and Gyn., Nov., 1902), holds that it is in the interest of the patient and medical attendant alike, that one or more vaginal examinations are indispensable. There are risks of omission as well as commission, and inasmuch as we are cognizant of the dangers in examining the patient, care will reduce them to a minimum. The dictum that "all the obstetrician needs to know in normal cases can usually be learned by abdominal palpation and auscultation," is a false and pernicious teaching. The general practitioner knows better. From the author's experience, confirmed by the observations of others, the second and fourth positions occur much more frequently than is generally supposed. Possibly the relative frequency may vary in different localities, but it is more possible that a considerable "personal equation" must be taken into consideration in estimating the results. If anyone thinks that he meets with the fourth position (L. O. P.) in little more than one per cent. of cases, it is because he has yet to learn how to accurately diagnose them. Erroneous ideas as to the range of the fingers in the pelvis are traceable in the directions given whereby to diagnose the position of the fetal head. In the instructions the common mistake is to represent it as possible to reach both fontanelles during one examination, and occasionally they are said to be equally accessible. This is not the case.

If one fontanelle be found, the other is certain to be beyond range, or not accessible, being covered by the soft parts or being pressed against the pelvic wall. The second fontanelle can at times be reached, but only by increased pressure. The author directs that, after recognizing the position of the small fontanelle, the finger should then pass along the sagittal suture until it reaches the large fontanelle and recognizes the four sutures that enter it. It should then search for the ears, the mastoid processes and the lateral fontanelles, all of which may be found by following the lambdoid sutures to their terminations. So far as the facility of the mechanism is concerned, it matters little in which position the head may be lying, but it makes a great difference whether the head is flexed or not. Greater facility and precision in diagnosis of all the relations of the head to the pelvis can be attained by (1) keeping a clear distinction between a forced and an ordinary examination; (2) introducing the idea of a normal range of the fingers, and determining what that range is; (3) the use of clearly defined terms, employed always in the same sense. The diagnostic value of the normal range of the fingers depends upon the recognition of the following facts: (1) If the posterior wall and the sacrum be felt, it is a sure evidence that the pelvis is abnormal; (2) when the fingers are fully introduced in the mesial line, the tactile spot corresponds fairly with the central line of the pelvis; it is easy therefore to determine the exact position of the os; usually it is central, but at times displaced; (3) when the os is moderately dilated the fontanelles as a rule are not accessible, but the sagittal suture can generally be felt crossing the os; (4) when the os is more dilated, or if the finger be passed within the lip, a fontanelle may be felt, if the smaller the head is flexed; if the larger the head is somewhat extended; (5) only one fontanelle is within range at a time, the smaller indicates flexion, the larger insufficient flexion, or it may be extension of the head. The diagnosis of the location of the head is made as follows: First position (L. O. A.)—The small fontanelle is found in the left anterior, the sagittal suture running backward in a right oblique diameter, the large fontanelle is beyond range. The second position (R. O. A.)—The sagittal suture lies in the left oblique diameter, but here it is often difficult to find any suture at all. The third position (L. O. P.)—Sagittal suture in right oblique diameter, but the large fontanelle lies in the left anterior. Insufficient flexion is the cause of delay in this position; should the small fontanelle be within range from the first, the mechanism is as easy as when the occiput is anterior. The fourth position (L. O. P.)—The sagittal suture runs in the left oblique diameter. Till the head is well flexed the small fontanelle in the left posterior is beyond range. With good flexion this may be mistaken for an L. O. A. Error may be avoided by carefully noting the direction of the sagittal suture.

Plastic Surgery of the Female Urethra.—Many methods of constructing this membranous canal have been tried, some of them with marked success; but the literature shows that the same method can rarely be applied twice, since each of the accidents happens in its own way, and calls for a new and specially devised operation. The author (H. P. NEWMAN, Am. Jour. of Obstet., Oct., 1902) gives a case, now under treatment at the Marion Sims Hospital, the progress of which, though satisfactory, has been tedious, and the patient has not entirely recovered. Case: Mrs. S. W., aged thirty-nine years, and has been married three years. There is a generally contracted pelvis with an ankylosed hip, resulting from a severe attack of Pott's disease in early childhood. Has had one full term child which was extracted forcibly through the narrow pelvis while the bladder was distended with urine. The floor of the bladder was torn and the urethra was laid open along its entire length. Six weeks later, the patient still being in bed, an attempt was made to repair the tear. This was repeated twice in the following year. Three months later the patient came to the author with a complete exstrophy of the bladder. Operation was performed: flaps were taken from the vulva on either side and after splitting the bladder and the vaginal wall, a considerable closure was accomplished by means of silverwire sutures, a drain or retention catheter being inserted in an opening behind the line of sutures and the patient being kept in an exaggerated dorsal position until the wound healed. One month later a second operation was done, still more of the bladder being closed. This operation permits the patient to retain her urine for a couple of hours. Unfortunately she left the hospital while the author was away from the city, and so the operation has never been finished. It is advised by the author that the uterine appendages be removed from the uterus, and the uterus turned on itself and then the torn bladder be so sewn about it that the uterus with its canal serve as new urethra. The writer has not tried this procedure, but believes that it would be most successful and efficacious.

Dermoid Cyst Complicating Labor.—Of the tumors of the lower abdomen and pelvis which may complicate labor, dermoid cyst is certainly a very uncommon one. A case of this class is reported by J. B. MACAULEY (The Lancet, Nov. 8, 1902). The primipara was twenty-seven years old; had been in labor about 10 hours when first seen; was suffering feeble pains, with a slowly dilating os, and a presenting in the left occipito-anterior position. The pains ceased that night, and the patient slept through it. Labor began again the next morning. On examination the patient showed little advance, but was visited every few hours that day, and in the evening the os was fully dilated, and the pains, although very severe, did not advance the head. Chloroform was administered, and the forceps applied, but, notwithstanding the use of these instruments, the head did not move appreciably. On relaxing traction on the instrument, without symptoms or warning there appeared at the pelvis a large cyst with a long pedicle. At first it suggested a cystocele, but a catheter did not withdraw urine from it. Then degeneration of the amnion was considered, together with that of placenta previa, because the cord had already prolapsed as if the placenta were situated low down. An incision was made in the cyst, and a large quantity of matted hair was removed. Then the cyst and its long pedicle were brought down and kept outside of the vulva by means of a ligature. The child was then delivered without difficulty, instrumentally. Death followed in the mother by peritonitis, in a few days, and, unfortunately, no autopsy was allowed, so that the precise origin of the cyst within the abdomen cannot be stated. Examination by the vagina seemed to show that traction with the forceps had caused the cyst to rupture through the cervix, and thus pass down the vagina.

Pelvic Disease in the Young and Unmarried.—Many of these disorders are purely functional, others are only symptomatic of some constitutional trouble, and C. L. BONIFIELD thinks that the treatment of them can be safely left to the family physician (Am. Gyn., Oct., 1902). Such patients should not be subjected to local examination and treatment until reasonable effort has been made to relieve them by other methods. Among the affections that most commonly bring this class of patients to the gynecologist may be mentioned the disorders of menstruation, the undeveloped uterus, tubercular disease of the appendages and acute displacements. Menstruation may be tardy in making its first appearance. Unless there be marked local symptoms or function be many years behind time, there is no necessity for local examination. The careful physician should determine whether the function is really late or only apparently so. Such cases are nearly always anemic. A most careful inquiry must be made into the condition of the general health and if the patient's mode of living be harmful it should be corrected. Good health at puberty is most essential to the proper development of the uterus and ovaries. The uterus that begins to menstruate late, ceases to do so early, showing a lack of vitality. Amenorrhea is one of the early symptoms of phthisis. Obesity frequently lessens and sometimes stops menstruation. The treatment is dietetic and a strenuous life. Ovarian extract is sometimes of value. Dysmenorrhea may be of uterine, tubal or of constitutional origin. In the young or the unmarried, it is most liable to be due to constitutional causes. Anemia, chlorosis, malnutrition, syphilis and rheumatism are a few of the more common constitutional conditions that make menstruation painful. Flexion, version, and a narrowed cervical canal play an important but still subordinate rôle in the production of dysmenorrhea. It is not until an endometritis is superimposed that dysmenorrhea develops. The malposition is but a predisposing cause of the endometritis. By proper hygienic treatment a majority of the cases can be cured without resort to local treatment. Operative procedure is the only local treatment to be thought of. Tubercular disease of the tubes may be the cause of dysmenorrhea. Other tubal disease practically does not occur in the young or unmarried. Ovarian dysmenorrhea is not rare in such patients, though many cases are diagnosed as ovarian, which are really constitutional. Imperfectly developed ovaries, prolapsed ovaries, or ovaries which have undergone cystic degeneration produce true ovarian dysmenorrhea. The author has cured ovarian dysmenorrhea by freeing the right ovary from adhesions to the appendix. Menstruation from the infantile uterus is tardy in making its appearance, is scant and usually painful. Efforts may be made to develop it, but with small hope of ultimate success. Primary tuberculosis of the appendages usually begins at the fimbriated extremity of the tube. The diagnosis may be made by recognizing the enlarged tube and excluding gonorrheal and streptococcic infection. The treatment is extirpation. Acute prolapse of the uterus may occur in the young or unmarried as the result of a fall or heavy lifting. Like hernia it occurs in individuals of lax fiber. Ventrofixation is probably the best treatment.

Inversion of the Uterus.—An interesting case of complete inversion of the uterus of seven months' duration is reported by J. W. Taylor (Brit. Jour. of Obstet. and Gyn., Nov., 1902). Mrs. E. G., aged thirty-nine years, was delivered of her first child, Feb. 9, 1899. No instruments were used, but she had great hemorrhage at the time of her confinement. The child was not suckled. The first menstruation after delivery began about the middle of March. The patient flooded for 10 days, and was very weak afterward. Up to five weeks later, she was never free from some bleeding, when she had a still greater hemorrhage. During all this time no examination was made to ascertain the cause of the flow. On Sept. 15 the patient was carried to a hospital with the symptoms of exsanguination. A large tumor was then seen to be the cause of the flow. This was demonstrated to be the uterus, completely inverted. After some days of rest and supportive treatment, the Lawson Tait method of reducing the inversion was tried but with no success. Various other schemes were tried but as no instrument could be found to hold the uterus up, operation was decided upon. By tracing the uterine tissues well upward the probable site of the cervix was made out. An anterior colpotomy was done. This incision almost immediately showed the cup of the inversion, for the uterus appeared to have detached itself from its usual union with the bladder. The peritoneum was pushed up, and the anterior margin of the cervix seized on each of the middle line by volsella, while the uterus was cut up between them with long straight scissors. This opened the peritoneum and the appendages were seen to be within the cup of the inverted uterus. One ovary was resting on the margin of the cup. The appendages had already contracted some adhesions, but these were separated and the inversion reduced. When this was effected a rather peculiar difficulty presented itself. The inversion had existed so long that the peritoneal surface of the uterus which formed the inner surface of the cup had become considerably smaller than the mucous surface, and when reinverted or replaced and the thickness of the muscle wall, being larger, bulged through the incision, preventing the apposition of the peritoneal edges. The operator brought the sides of the incision together by a close fine suture of sterilized silk, but with considerable bulging of the middle of the wound. A gauze drain was left in this spot, resting between the uterus and the bladder. After a week the wound suppurated, and because of the bad condition of the patient, hysterectomy was thought of. The continuous suture was removed, however, and the patient slowly recovered. One year later there was no trace of her trouble to be found.

The Vaginal Secretion in Pregnancy.—The bacteriological relations in the vaginal secretions during pregnancy are still topics for very divergent views. The only investigation which will in time solve this problem is one that includes a knowledge of all bacteria found in the vagina. In a series of researches, H. Bergholm (Arch. f. Gynäk., Vol. 66, No. 3) has endeavored to answer two questions: (1) Whether in the vaginal secretion of pregnancy there are found the common pyogenic varieties of streptococcus, staphylococcus, and colon bacillus, and (2) what is the nature of the bacteria usually found in this secretion? The examinations were conducted on 40 patients in the later stages, on whom no previous douching or manipulation had been done. Specimens were secured under special precautions and cultures made on various media. In summarizing the results, the author found the secretion of an acid reaction. the degree of which varied within extended limits. Flat epithelial cells, leucocytes and micro-organisms were found in varying proportions, but a division into normal and pathological secretions was not found practicable. The micro-organisms found showed few changes in form and seemed to grow best under anaerobic conditions. The greater number also grew in air, especially on acid media, but a few were obligate anaerobics. The only forms which did better under aerobic conditions were saccharomyces and a few bacilli. The micro-organisms commonly found were not pathogenic to animals. Neither staphylococcus pyogenes aureus or albus, streptococcus pyogenes, or bacterium coli were encountered. The flora of the vulvar secretion is markedly different from that of the vaginal. In most cases the bacteria of the former grow best in alkaline media in air, and the usual varieties are the staphylococcus cereus albus and bacterium coli communis.

Pregnancy Developing in a Tubular Diverticulum.—A most interesting case of this variety is reported by Demons and Fieux (Annal. de Gynéc. et d'Obstet., Oct.-Nov., 1902). The patient was a young woman aged twenty-four years, always had had fairly good health, except for a condition of chronic constipation. Five years of marriage passed without the slightest evidence of pregnancy until finally, on April 25, menstruation ceased and toward the end of September, morning sickness, tingling of the breasts and other signs confirmed the suspicion of pregnancy. On the evening of the eighth of November, the patient got up to void her urine, and during the effort of micturition she was seized with a very sharp pain in the pit of the stomach, and later, there followed pallor and coldness of the extremities, still later, a tendency to syncope. The pulse became very rapid and small. Bimanual palpation showed the uterus somewhat enlarged and deflected to the right and the cervix softened. On the left one could feel a tumor mass attached to the uterus about the size of an orange, which was painful on palpation. The diagnosis of a ruptured extra-uterine pregnancy was made and operation decided upon. The abdomen was opened and the diagnosis was confirmed on the removal of the left tube, ovary and an embryo-containing sac. The appendages showed no pathologic changes except for a slight congestion. The examination of the mass showed that the ovum had become implanted upon the mucous membrane of a small diverticulum on the left tube, and there was developed the membranes outside of the diverticulum enveloping the tube and ovary. This mass had become adherent to the surrounding pelvic structures. The patient made a rapid and uneventful recovery.

Ectopic Gestation.—The origin of ectopic gestation has been carefully sought for during many years and appears likely to afford a field for controversy for some time to come, since it cannot be decided until we know where the ovum becomes impregnated and what is the nature of the site required for its implantation and growth, whether impregnation occurs in the uterus, tube or ovary, and whether or not it requires a healthy mucosa or a surface more or less completely denuded of this membrane for its implantation. It is rare, says F. A. L. Lockhart (Amer. Gynec., October, 1902), to see a specimen until the anatomic relations of the parts have become so distorted by stretching, rupture and hemorrhage, and the history of previous attacks of venereal disease, is so very difficult to obtain, that it is almost impossible to arrive at any conclusion as to the cause of the inflammation. The symptoms of an unruptured ectopic gestation are, as a rule, so slight and vague that the patient seldom seeks medical advice. Sinclair reports a case in which the patient went to the sixth month without rupture. The author has a case at the fifth month of gestation which ruptured but was operated upon and recovered. It must be remembered that neither the presence of normal menstruation nor the absence of a discharge of blood from the uterus can be regarded as an absolute sign that the case is not one of ectopic gestation. Tubal abortion can, of course, occur only in the earlier months when the ovum is implanted near the outer end of the tube, which has not yet been closed. The symptoms of this condition are practically the same as those of rupture and just as in the uterine variety it may be either complete or incomplete, both being equally dangerous. There is, however, more tenderness over the abdomen than in the case of a ruptured sac. Ruptured ectopic gestation may simulate: (1) Uterine pregnancy with threatened abortion; (2) pus-tube, which leaked out and set up a localized peritonitis; (3) tumor with a twisted pedicle, but this will give a much firmer and more resistant mass; (4) pelvic hematocele, but this is usually due to a ruptured gestation sac; (5) pregnancy in a rudimentary horn of the uterus demands the same treatment, so that its differentiation is unnecessary, if not interfered with, the prognosis of ectopic gestation is without doubt exceedingly grave. Champneys reports 75 cases of ectopic gestation (including pelvic hematocele), out of which 34 or 45.3 per cent. were not interfered with, all recovering; 26.92 per cent. of those operated on by the abdominal method died. The treatment will vary according to circumstances. Champneys' rules are: (1) Cases of early, unruptured living tubal gestation should be operated on without delay; (2) cases of rupture into the peritoneal cavity, without diffuse hemorrhage, should be dealt with according to circumstances, (*a*) if hemorrhage still continues when they come under observation some cases ought to be subjected to operation, taking into consideration the probability of limitation and encapsulation of the blood-containing sac and the state of the patient at the time; (*b*) if seen after hemorrhage has ceased, they should be treated expectantly. (3) Cases in which the blood has been encapsulated by adhesion or by the broad ligament should be treated expectantly. (4) Hematoceles which refuse to be absorbed in a reasonable time should be opened, emptied and drained. These rules are excellent, but practically difficult to follow. The immediate rupture is to be treated by placing the patient in the recumbent position with the pelvis higher than the head, the local application of ice to the lower abdomen, and the administration of a dose of morphine (¼ gr.). The lower limbs may be required to be bandaged. All stimulants are absolutely contraindicated. If, however, a stimulant is required, none but normal saline per rectum is indicated, since it simply takes the place of the blood lost, and is less liable to be followed by a resumption of the hemorrhage than when alcohol is used. As to the choice of routes for the operation the one that permits of the most room and convenience in reaching the seat of trouble is the best one, whether it be the abdominal or the vaginal. In the case of a pelvic hematocele which will not resolve under hot douching, rest, etc., the best treatment is to incise it thoroughly per vaginam, wash out the clots by means of a gently flowing stream of salt solution and drain. Some operators claim that in order to prevent a recurrence of this condition one should sterilize the patient by removing both sets of appendages. This is a wholly unjustifiable proceeding, as perfectly normal pregnancy may follow ectopic gestation.

Shortening the Round Ligaments Per Vaginam.—It is necessary to understand the dynamics of the female pelvis in order to discover, when such a pathologic condition as retrodisplacement of the uterus exists, wherein Nature has slipped a cog, as it were, and upset the balance of force, remarks J. RIDDLE GOFFE, in writing of the condition (Am. Gynec., Oct., 1902). When this knowledge has been gained the problem of repairing the damage along rational lines is before us. The great principle that Nature has invoked or applied in retaining the organs of the human body in normal position is that of supension by ligaments. There is no reason to suppose that Nature has made an exception in the case of the uterus, and indeed upon inspection we find that no organ in the body has so many ligaments as the uterus. It is logical to infer, therefore, that when the uterus has gotten out of its normal position, something is wrong with the ligaments, and it is equally logical to assume that to restore the uterus to its normal position and maintain it there the ligaments afford the proper tissue for such a purpose. The utero-sacral ligaments are the most important in supporting the uterus. It is to some malign influence affecting these ligaments that one should seek for the cause of retrodisplacements of the uterus, and, consequently to the repair of them that one must look for a restoration of the function of the uterus to its normal condition. The round ligaments when shortened at the external abdominal ring are efficient in retaining the uterus in its normal position when applied to cases of retrodisplacement uncomplicated by inflammatory processes. In a series of 130 cases treated in this manner, the author has had but two failures and these were due to attempts to modify the routine operation. Ten of these 130 cases have become pregnant and eight have gone onto full term, the pregnancies resulting most comfortably and satisfactorily, the uterus remaining in a proper position thereafter. Of the miscarriages, one was a syphilitic negress and in the other the cause could not be learned. In the author's experience the most frequent cause of retrodisplacement is some suppurative disease in the appendages either active, subacute or passive, involving from 75 to 80 per cent. of the cases coming under the author's observation requiring operation for this affection. The Alexander operation is applicable to an extremely small number of cases, hence it becomes necessary to open the peritoneal cavity and the question arises, shall it be done through the vagina or shall it be done through the abdomen. The author prefers the former route. In six years' experience but few cases have arisen in which this could not be said to be the proper route of attacking the trouble.

The Vaginal Route.—This method of operation is of especial advantage in operating upon the uterine appendages, according to J. M. BRANHAM (Am. Jour. of Obstet., Nov., 1902). The author has successfully employed it in (1) pelvic inflammations (2) neoplasms, (3) myomata, (4) extra-uterine pregnancy. Here it is of especial advantage. If the case is of several days' standing and an elevated temperature would indicate that there existed an infection, vaginal drainage is the natural method; it is by far the more effective and the safer. Extensive inflammation associated with pus formation rapidly walls off the general peritoneum; this wall should not be broken through and can not be interfered with without danger of general peritonitis. Opening through the vagina is associated with a minimum amount of shock and hemorrhage, and thus indicated in severe cases associated with severe toxic symptoms. While freer dissection in the lateral plane (pelvic) for infiltration complicating uterine cancer, through the abdominal route can be made, yet the less thorough dissection of the surrounding vaginal wall, and the greater danger the transplantation (operative) with increased mortality due to shock and infection by it render vaginal hysterectomy the safer operation and the one to be advised in most cases.

Treatment of Pelvic Abscess.—The gonococcus travels by the route of the mucous membrane only, while the streptococcus and staphilococcus—which are the ordinary pus-producing organisms—may take either channel. Consequently one may have pus in the pelvis as the result of an extension of a gonorrheal infection, of postpartum, and postpuerperal processes, of traumas, of injuries of the cervix and the body of the uterus, resulting from accidents occurring during labor, and of careless surgical interference and intra-uterine manipulations, says Herman E. Hayd (Am. Jour. of Obstet., Nov., 1902). These infections may produce a primary tubal and ovarian abscess with secondary localized purulent peritonitis, or by way of the lymphatics, suppurating foci in the broad ligament, or even an abscess between its folds or in the lymphatic network between the vagina and the bladder, or it may extend to the peritoneum and produce a collection of pus in the free pelvis, or an ovarian abscess, or even a secondary tubal abscess. A pure gonorrheal infection is not common; the pathology is usually the result of a mixed infection. There is evidently some susceptibility on the part of the individual tissues and structures which explains these different expressions of infection. Nature, by her beautiful protective processes, shields herself from the approach of pus by making dense barriers of adhesions, and as a rule confines the suppuration to certain definite areas. If it were possible to locate these points and to establish drainage through the vagina, the acute trouble would soon subside and the reparative processes begin. Unfortunately these pus cavities are not often located; some are drained, while others are left unopened, and others are lined with a secreting membrane, and continue to discharge pus just so long as these membranes are left in situ. The advocates of the vaginal method of operating attack all these cases, with but few limitations, from below, and they presuppose a diagnostic ability, which we all know that none of them possess. Kelly reports a number of cases of puncture in localized tube and ovarian pus collections, per vaginam. Not only did all these cases recover, but the tubes and ovaries got well and functionated. The author was not so fortunate in his cases, for in some of them, after spaces of time varying in length from a few weeks to two years, abdominal section was necessary to relieve these patients from the subsequent suffering and chronic invalidism due to adhesions. There is a class of cases in which vaginal drainage supplemented with curettage, when indicated, should first be employed to get rid of the free pus, and then later an abdominal section should be made to cure the patient of her suffering. In streptococcic infections the author strongly recommends an early vaginal incision for the purpose of draining off all the free pus, and, if necessary, extend the incision to one or both sides and evacuate a tubal or ovarian abscess, if easily reached. The author doubts the wisdom of operating on acutely sick women with high temperature and marked constitutional disturbances, by abdominal section, but rather to drain first, and operate later. By this procedure, the temperature usually falls to normal and the general condition of the patient is improved. If the temperature continues high, do an abdominal section immediately. All pus collections in the pelvis are not dangerous, in fact, most old collections are sterile. The mere opening of an abdomen is not dangerous, so far as the immediate mortality is concerned, but it is the dangers from the remote complications which would make the vaginal route preferable, provided we could establish a satisfactory diagnosis and be able to work with assurance and confidence. But this is impossible, and there must therefore always be cases attacked per abdomen, while others are best reached per vaginam, backed up by the individual qualifications of the operator.

Cesarian Section.—After reporting a very interesting case of Cesarian section for a flattened pelvis, John W. Martin (Brit. Jour. of Obstet. and Gyn., Nov., 1902), concludes that the operation can be recommended with confidence, in all cases where the pelvic measurements are such as to render the delivery of a living child improbable. In such cases, however, one should not wait until the patient has become exhausted by an already prolonged labor. In regard to sterilization, there is at the present a divided opinion as to the production of such a condition. The author admits that there is force in the arguments of those who point to the successful repetition of the operation, but it is just as well that the feelings of the patient be considered, as she will naturally look with no great pleasure at the thought of having to go through the ordeal of a second operation of this character. With Dr. Raw, the author would not hesitate a moment in the case of a married woman, but would most decidedly hesitate were the patient unmarried. If two people have the good fortune to be happily mated, the life of the woman is far too valuable to the husband to be lightly risked for the sake of a possible increase in the family, in the face of risks of what must always remain a fairly serious operation. But when one bears in mind the splendid results obtained by many surgeons with this operation, one cannot help feeling that there is a brilliant future for this procedure. Craniotomy and cephalotripsy, with the dragging of a mutilated fetus through the narrowed opening of a deformed pelvis, etc., will soon have passed into antiquity.

The Transmission of Chorionic Villi.—These have frequently been observed in metastatic deposits following a cystic mole or carcinoma at the placental site in pregnant women. A satisfactory explanation of their occurrence in such cases has heretofore never been presented and in investigating this subject the question would naturally arise whether analogous conditions may not be found in other pregnant states. W. Poten (Arch. f. Gynec., Vol. 66, No. 3) has recently published the results of his investigations in this field. He has carefully studied a series of sections of gravid uteri, seven in number and varying in period from two to nine months. His observations are worthy of note. In all cases, even with a normal placental attachment, it was possible to demonstrate the presence of detached chronic villi in the maternal blood-vessels in numbers varying greatly in the different cases. No evidences were found which would warrant the belief that in normal cases these migrating villi had any effect on the fluid character of the blood. No changes in the vessel walls in the neighborhood of the particle and no clotting could be detected. True emboli however could be formed after passing the heart, in the pulmonary arterioles and capillaries, as the greater number are undoubtedly carried to this locality. During the act of coughing or during a bearing down pain the venous stream may be halted or momentarily reversed, and at this time a few particles may get into the peripheral veins which would account for their occasional presence in vaginal nodules. The etiological factors which induce these conditions remain as yet a matter of doubt. The villi in certain cases may be more brittle or the placental attachment insecure but the author inclines to the theory that changes in the blood-pressure constitute the principal cause. This is manifested by stasis and eddies in the blood of the maternal sinuses by which the floating villi may be torn away. Eclamptic conditions would appear as most likely factors in causing this phenomenon but in two specimens derived from such cases only a moderate number of migrating villi were found. Strange to say the largest number were seen in sections of a uterus from a case which had died from hemorrhage resulting from placenta previa, that is to say, with a diminished blood-pressure. These contradictory results do not permit at present a definite knowledge of the true etiology of this condition. It appears, however, that the transmission of these separated masses of villi in the maternal blood-stream is liable to occur in the course of any pregnancy, but must not be considered of physiological or even of pathological significance. The disintegration in the blood-stream without any resulting symptoms is probably the ultimate fate of these minute tissue particles. The author believes however that syphilitic infection of either mother or child may be induced by this means. The villi have been observed to contain fetal blood which would naturally be set free in the maternal circulation when the former are disintegrated. If the fetus is syphilitic, the virus could thus be readily transmitted. In the same way the blood of the mother, who has become syphilitic during her pregnancy, could infect the fetus by contact at the points where the villi have been torn away. The observations also explain how in cases of malignant degeneration of the chorion, such as cystic moles and syncitial cancer these migrating villi may cause metastatic deposits in other parts of the maternal organism.

The Hydatid Mole.—This remarkable pathological change in a pregnancy must have always struck the practitioner, and, indeed, has been known for a long time. According to D. BERRY HART (Brit. Jour. of Obstet. and Gyn., Nov., 1902), it has long since been known that deciduoma and malignum follows hydatid mole in about 50 per cent. of all cases. What is the nature of hydatid mole? Is there a malignant and a simple form of the mole? Can we tell histologically what form will develop malignant disease? The questions must be considered from the following standpoints: (1) The structure of the early normal villus; (2) the naked eye and microscopic structure of the hydatid mole; (3) the clinical features of hydatid mole; (4) its relations to diciduoma malignum; (5) possible nature of hydatid mole and its relation to diciduoma malignum; (6) can we ascertain by microscopic examination the mole, or of its curettage fragments after abortion whether diciduoma will develop ultimately? Normally, the early villus has a double epithelial covering, Langerhans' layer and syncytian. These can absorb dicidual tissue penetrating into it, can pass into blood-vessels without coagulating the blood; while normally, their progress is always marked by the condensed layed (Nitabuch's fibrin layer). Finally, both epithelial mantel and connestive tissue core, which approximate the Whartonian jelly in structure, differentiate in the normal placenta, the syncytium gradually thinning, the cells of Langerhans becoming more flattened, while the connective tissue loses its myxomatous type and becomes more fibrous. With hydatid mole there is no fetus present. The membranes alone may be degenerated, the placenta healthy. When we have a fetus, a placenta and a hydatid mole together, the case has been probably a twin, where one of the ova has been fertilized and the other become a mole. The absence of a fetus is a great fact, not hitherto appreciated. Hydatid mole is rare, estimates varying from 14 in 10,200 cases (1 in 728, König, quoted by Gebhard, and 1 in 2,400, St. Bartholomew's statistics, quoted by Williamson). Hydatid mole has been found in the tube, and also in the paravaginal tissue, the latter is a metastasis, but such rare conditions are only diagnosible by operation. Diciduoma in about half the reported cases is preceded by hydatid mole. Virchow termed the mole "myxoma chorii." The author believes that the term diciduoma should be changed to metastatic mole. The proportion of cases of diciduoma malignum following a mole is very low, hence it would be wrong to extirpate the uterus in every case of mole. There is nothing in the microscopic examination of a mole to determine that it will become a case of diciduoma malignum.

PHYSIOLOGY.

The Importance of Sodium Chloride in Heart Activity.—That the activity of the heart is dependent on certain blood-salts, has for some time been held generally by physiologists. Loeb has assigned to sodium chloride the first importance in originating rhythmical cardiac contraction. Although Howell, Ringer and others give this place to calcium, D. J. LINGLE (Am. Jour. Physiol., Nov. 1, 1902) finds that sodium chloride is absolutely necessary for the origination of rhythmical activity in heart-strips. Agencies like caffeine that can intensify rhythmical activity cannot originate it. What has been described as the sodium-chloride arrest, is probably due to a lack of oxygen in the salt solution. The presence of oxygen in these postpones its development and starts the rhythms again. Ordinary salt solutions do not contain enough oxygen for the normal activity of heart-strips. Oxygen gas and sodium chloride, if properly used, will keep strips beating as long as a mixture of salt solution. Oxygen gas has a powerful influence on rhythmic power, but is of itself powerless to originate rhythms. Oxalate solution that precipitates calcium will permit beats to begin if sodium chloride is present.

Effect of Temporary Ischemia of the Parathyroids.—Through compression of the efferent and afferent vessels of the parathyroids, C. PINTO (Rif. Med., Oct. 21, 1902) has arrived at some interesting conclusions concerning the effect of ischemia upon those organs. Depression and hyperthermia resulted from the maintenance of ischemia from 90 minutes to six hours; and if prolonged to 16 hours, conjunctivitis, polyuria, tremor and muscular twitching appeared. When ischemia was maintained 16 to 31 hours symptoms identical with those seen after parathyroidectomy—tetanic manifestations, cachexia or both were noted. Examination of parathyroids so treated showed epithelial degeneration as the principal histological change. From the fact that clinical and degenerative symptoms appear earlier in parathyroids subjected to this treatment than in thyroids, the author concludes that the former are less resistant than the thyroids.

The Vesical Mucosa's Power of Absorption and Elimination.—This question has been studied experimentally upon dogs by M. BUCCO (Gazz. Osped., Oct. 26, 1902), who tested the power of absorption by injection into the bladder, after ligature of the ureters, of various substances, among which may be mentioned potassium iodide; indication of the absorption of this substance by the mucosa being seen in the reaction of the saliva to iodine tests within 20 minutes. Subcutaneous injection of methylene blue and potassium iodide, preceded by ligature of the ureters and followed by injection of physiological salt solution into the normal and diseased bladder, showed by the absence of these substances from the liquid subsequently withdrawn, at intervals, from the bladder, that elimination does not occur through the vesical mucosa.

Action of Acids on Blood Corpuscles.—Acids and acid salts cause, according to S. PESKIND (Am. Jour. Physiol., Nov. 1, 1902), immediate agglutination and precipitation of the blood corpuscles. The serum constituents play no part in this reaction since serum-free corpuscles are likewise agglutinated and precipitated by the same reagents. The reaction is due to an effect of the reagents on the stromata of the corpuscles, since if the serum-free corpuscles are laked by any hemolytic agent, *e.g.*, sapotoxin, and to this solution of blood corpuscles a trace of any of the precipitants is added, the ghosts are agglutinated and precipitated, settling very rapidly. The constituents of the stromata are lecithin, cholesterin and a globulin, which exists in all probability as alkali-globulin. If blood corpuscles are laked by ether, the lecithin and cholesterin are dissolved out of the stromata, yet the addition of any of the reagents still causes the precipitation of the ghosts. Therefore neither the lecithin nor the cholesterin is concerned in the production of this reaction, which would thus appear to be brought about by some action on the alkali-globulin. This conclusion is strengthened by the fact that the reagents are also precipitants of alkali-globulin and alkali-albumin. Leucocytes thoroughly washed are strikingly agglutinated and precipitated by the same reagents which act on red blood corpuscles. Halliburton has shown that leucocytes contain the same globulin (B. globulin) as the stromata of the red blood cells. This substance has fibrinoplastic properties. The reaction in the case of the leucocytes is in all probability due to a combination of the B. globulin with the reagents. This B. globulin is a constituent of all typical cells (cells of liver, kidney, etc.); the author, reasoning by analogy, believes that this globulin forms part of the framework or at least the envelope of all these typical cells. If this be so then the reaction (agglutination, precipitation) must show itself to be of general nature and not confined to blood corpuscles. On trial this is found actually to be the case. Spermatozoa, yeast cells, bacilli, the mycelia and spores of a fungus and ciliated epithelium were all found to give this reaction.

The Antagonists of Curarin.—It has been shown by C. J. Rothberger that curare and physostigmin have a twofold antagonism to each other. In a further series of researches (Pflüger's Archiv, Oct. 23, 1902) he finds that there are a number of other antagonists to curare, which are however less so than physostigmin. One of these is nicotin. Muscles already paralyzed by injections of curare are again rendered excitable by the use of larger doses of nicotin. Small doses of the latter are capable of restoring the respiration, at least in part, when this has been paralyzed by curare. The effect of nicotin is too weak to restore completely a curarized animal. Likewise guanidin can be regarded as an antagonist of curare, since the former restores spontaneous respiration and the excitability of the intramuscular nerve-endings after the use of curare. Besides the components antagonistic to curarin, guanidin contains also a substance highly toxic to the circulatory organs and to this cause is to be attributed the fact that the complete restoration of curarized animals, as is possible by the use of physostigmin, cannot be effected by the use of guanidin. Between curarin and veratrin there is a decided twofold antagonism, which manifests itself in the restoration of the excitability of the sciatic nerve and the recommencement of respiration. Complete restoration of the curarized animal by means of veratrin is however impossible, since the latter is highly toxic to the circulatory organs. Another antagonist of curarin is tetraethylammoniumiodide. Likewise all the members of the phenol ring so far investigated are antagonists of curare. Such are phenol, di- and trioxybenzol as well as the three cresols. The most efficient bodies are hydrochinon, resorcin, pyrogallol and oxydrochinon. The remaining bodies, particularly phenol, pyrocatechin and the cresols are much less effective and by damaging the circulation present the possibility of causing survival of the animal. Phloroglucin is the weakest antagonist of curare. Pyrocatechin, hydrochinon and pyrogallol alter the blood by the formation of methemoglobin and thus damage the respiration of the tissues and prevent the possibility of resuscitating the animal. Negative results were obtained with suprarenal extracts, ergotin, pyridin, strychnine, apomorphine, ammonia, colchicine and aconitine.

Influence of the Contents of the Colon on Strychnine.—Finding that repeated dosage of strychnine produced no cumulative poisoning in dogs whose kidneys had been removed, W. Salant (C'blatt f. Inn. Med., Nov. 1, 1902), under Meltzer's direction, was surprised to find that apparently the poison was not eliminated by the feces. However, on adding one gram of strychnine to the feces he was still unable to detect strychnine by his tests, though strychnine has often been demonstrated in the alimentary tract in medico-legal cases. He therefore removed contents of the tract at three different places, the stomach, small intestine and colon. One milligram of the poison added to the stomach contents was readily demonstrable; added to the contents of the small intestine, demonstrable; added to the contents of the large intestine, no tests obtained. The conclusion, therefore, is that the large intestine contains something that can change a given amount of strychnine so that it cannot be recognized by existing tests.

Effect of Extirpation of the Medulla of the Suprarenal Capsule.—The effects noted in rabbits and cats subjected to this operation are thus described by G. Vassale and A. Zanfrognini (Rif. Med., Oct. 31, 1902). When the medulla was entirely destroyed and the cortical portion left intact, the animals died in a short time with the acute symptoms seen after extirpation of the suprarenals. If, however, some part of the medulla were left, life was prolonged from three to four weeks with symptoms of a special cachexia (anorexia, psychic depression, lowered temperature and marked loss of flesh). The authors deduce from these experiments that a specific function of vital importance depends upon the integrity of the medulla of the suprarenal capsule. Further investigations are to be carried on with the view of ascertaining the rôle—apparently a minor one—of the cortical portion.

GENITO-URINARY AND SKIN DISEASES.

Erysipelas and Antidiphtheritic Serum.—The good results obtained by Talamon, reported in 1901, by using antidiphtheritic serum in some forms of pneumonia tend to show that the good effects of the serum in diphtheria are not due exclusively to a specific action upon the diphtheritic toxin. Recently it has been proposed to use these same injections against infectious diseases other than diphtheria, and in particular erysipelas. G. K. Shapiro (La Sem. Méd., Oct. 1, 1902) made an experiment of this kind upon a patient suffering from intense traumatic erysipelas. The man was thirty-two years old. His erysipelas had resisted ichthyol ointment, 20 per cent. strength, and the usual internal medication. On the other hand, two injections of 10 c.c. each of antidiphtheritic serum brought about a rapid improvement and, finally, a complete cure.

Argyrol in Acute Gonorrhea.—The attempt during recent years in perfecting the methods of treating acute gonorrhea has been to obtain some drug which would have a strong germicidal action upon the gonococcus, would penetrate the mucous membrane without forming chemical combinations and still would be non-irritating. Several silver preparations have been offered to the public professing to possess the above qualities and undoubtedly considerable advance has been made. More recently a preparation known as argyrol, which is a silver salt containing about 30 per cent. of silver, has been placed upon the market by Dr. A. C. Barnes and after a thorough investigation of its action, G. K. Swinburne (Med. Rec., Oct. 11, 1902) speaks very highly of it. It stains badly, however, but the stains may be removed if put into boiling water at once or if treated with a saturated solution of potassium iodide they may then be easily washed out. He uses it by irrigation in strength of 1-2,000 up to 1-500, using one quart at a time without irritating effects. Injections of one to five per cent. cause no discomfort and his usual method is to follow an irrigation with an injection of the latter strength and allow the patient to use a two-per-cent. solution two or three times a day at home. A 20-per-cent. solution has been used in a few cases to attempt an abortion of the disease and even in that strength the irritation was slight. Its gonococcidal powers are very satisfactory.

Sclerema Edematosum.—During a period of two years A. Buschke (Berl. klin. Woch., Oct. 13, 1902) has been able to watch the involution of a marked, deep-lying edema which developed in an otherwise healthy man aged forty-six years, following an attack of influenza. The superficial layers of the skin were not permanently altered in consequence of the sclerema; only about the face was any permanent change left, and here there was only a moderate thickening of the deeper layers of the skin. Buschke remarks that there apparently exists a form of disease which at an early stage of its development resembles scleroderma, but really is a disease *sui generis*. Blaschko admits that in contradistinction to scleroderma the disease described by Buschke is characterized by a deeper-lying edema, but he is inclined merely to make a subdivision of the class scleroderma, calling the type of Buschke sclerofascia and the other type scleroderma. In scleroderma, however, while involution of the edema occurs, it is succeeded by the peculiar atrophy of that disease, often associated with pigmentation; the original edema, of course, infiltrates the superficial strata. Senator, concerning the pathogenesis of the sclerema described by Buschke, has shown that vascular disease often succeeds influenza, and in this instance there is probably a diffuse affection of the lymphatic vessels. The disease in question should not be confounded with the sclerema occurring in children; the latter is a very severe, perhaps septic affection, usually fatal.

HYGIENE.

Rats and the Plague.—The following notes on the outbreak of the plague in Elizabethport during 1901 are contributed for the purpose of showing the part played by rats in the spread of the disease by W. J. Blackmore (The Lancet, Oct. 11, 1902). He details 33 cases in which the history seems to be indubitable that rats did cause disease. The evidence upon which this suggestion lies are the following four points, taken from his general analysis of these cases: (1) Relatives of patients did not contract the disease. In only one instance did two members of the same family have it. Here, infection from one to the other is negatived by the fact that the second was not taken ill until 20 days after contact with the first, but both worked at the same place, which was shown to contain infected rats. (2) "Contacts" did not contract plague. In only two cases did "contacts" among these 33 contract it, and then only the fourteenth day after exposure did the disease appear. Both of these patients also worked and slept in the same building, infected with diseased rats. (3) Neighbors of the plague patients did not contract the disease. Had the infection been from man to man, the house in which a plague patient lived would have shown itself a center of infection, by persons living in the adjoining houses and who frequented the patient's house becoming infected, but this never occurred except when dead rats were found in the patient's house. (4) The dwelling-houses of the patients were widely separated, but nearly all worked in the same rat-infested area. The 33 cases were widely scattered over the town, as regards dwelling-places, and it is notable that persons having had contact with the patients did not take the disease. Twenty-nine of the 33 individuals worked in that area of the town which was proved by bacteriological examination to contain diseased rats, and it was only after these rats had made their way into the residential portion of the town that cases of the plague began to appear among persons who did not work in the previously named rat-infected business portion. Of the first 23 cases, only one person did not live in this part of the city. He was a colored person, the only one of the entire number who worked in the same place as he lived, and contracted the plague there. As the infected rats were traced to the residential portion, cases began to occur among people who did not even work in the town. This is shown by the fact that out of the next 21 cases, eight were in children less than thirteen years old. In no case did any of the relatives of "contacts" in these eight cases contract plague, while in all cases dead rats, some proved to be "infected" were found either in the house in which the patient lived, or in their vicinity. As to the means of communication from the rats to man, he points out that there seems to be a certain number of cases which were infected merely through rats infesting the same abode. Other cases undoubtedly received the disease by handling rats which were dead. There is good reason to believe that the intermediary which is most active is the flea of the rat. This flea leaves the body as soon as the rat dies, and the plague microbe has been found in the body of the flea. Definite proof is lacking, but it is probable that these fleas bite human beings, and therefore easily transfer the disease. As to the extinction of rats, he says that traps are not successful; poison is probably the best single means for all-round purposes. Dogs and cats are good only as accessories and ferrets in the hands of experts are, no doubt, of great use. The introduction of some other infectious disease of deadly type among rats, for example, such as is caused by Danysze's bacillus is a significant means, but its applicability is yet to be proven.

Eradication of Yellow Fever.—There have been wonderful results reported from Havana during the past year in regard to the almost complete absence of this disease which has usually had an annual death list of one to two hundred at least. Since the mosquito has been found to be the means by which the infection is carried from one person to another attention has been paid solely to the destruction of this insect and the credit for such remarkable results has been unhesitatingly given to the improvements in sanitation. E. Souchon (Med. Rec., Oct. 25, 1902), who has had a wide experience in the Health Department of New Orleans, believes that one very important reason why yellow fever has not been prevalent during the past year or two is that it is not now epidemic even in those cities where strict precautions are not taken. He points out that history tells us that the disease causes great ravages for a year or two and then entirely exhausts itself for a considerable period, provided fresh cases, especially virulent ones, are not brought in from the outside. He, therefore, believes that strict quarantine laws should still be enforced and that we should not rely too fully upon the supervision of the mosquito.

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MILK IN RELATION TO PUBLIC HEALTH.

FOR an important contribution to the literature of the sanitary aspects of the production and distribution of cow's milk we are indebted to Dr. G. M. Kober, who writes in advocacy of the proposed revision of the law regulating the milk traffic in the District of Columbia (Senate Document No. 441, 57th Congress, First Session).

Milk legislation is no longer a novelty in this country. Such legislation is found in more than thirty States; and where it is lacking, as in some of the Southern and a few of the less important Western States, attempts have been made to fight milk adulteration under the general laws against food adulteration, or the municipalities have been able to protect themselves by local regulations.

The first step in milk legislation, according to Chapin, is to define what kind of milk shall be sold. Statutes and local ordinances invariably have begun at this point, and adulteration has been the vice aimed at. Latterly the problem has assumed new aspects. Epidemics of contagious diseases have been traced to milk and bacteriology has shown the dangers which lurk in milk containing an abnormal number of bacteria; and hence the object of milk legislation to-day is twofold: first, the prevention of the sale of adulterated milk, and second, the obtainment of milk free from dirt and micro-organisms. It is obvious that local legislation, if generally adopted and enforced, can protect consumers in cities against rank sophistication of milk. Whether such legislation will ensure a clean and uncontaminated supply of milk is quite another matter, for milk consumed in a large city is often produced hundreds of miles away, perhaps in several States, over which local authorities have no jurisdiction. Recognition of this obstacle to safety has led to the demand of a national law.

In the absence of a national law, municipalities can protect themselves against careless production by issuing no licenses to retailers unless the latter furnish data concerning their sources of supply. The Board of Health may then prescribe rules to which the farmer must conform if he wishes his milk to be passed by the city authorities. In Baltimore, Colorado Springs and Lynn, a license is not issued until the premises of the producer have been inspected. Experience has shown that inspection of cattle, farms and dairies must be rigidly controlled, for if farmers are permitted to employ their own veterinarians worthless certificates may be the result. The proposed law for the District of Columbia provides that the production, storage and shipment of milk and cream shall be in accordance with "the laws and regulations governing dairies and dairy farms, and the production and sale of milk and cream in the District of Columbia when such laws do not conflict with the laws of the State" in which the milk is produced. Premises, apparatus and cattle "may be inspected at any time without notice," by the health officer of the District or his representative. Probably this provision will satisfactorily cover the needs of the District, assuming always that the health officer is furnished with a number of inspectors sufficient to make frequent visits to all the dairy farms by which the District is supplied.

According to analyses of 120,545 samples of milk it is reasonable to expect market milk to contain 12.52 per cent. of total solids, of which 3.75 per cent. shall be fat.

The District bill adopts a standard of 12.5 per cent. total solids, including 3.5 per cent. of fats. New York requires 12 per cent. total solids and 3 per cent. fat. The object of fixing a reasonable standard is to prevent adulteration which diminishes nutritive value—a matter of great importance in infant feeding—and which often involves the addition of infected water. In 16 of

195 epidemics of milk transmitted typhoid tabulated by Kober intentional dilution was practised with polluted water. To show how frequently milk acquires infective properties after leaving the udder of the animal, Kober has collected and tabulated 99 epidemics of scarlet fever, 36 of diphtheria and a few of cholera. The necessity of milk inspection is further shown by a study of the statistics of diarrheal diseases of children in Washington, D. C. In 1893 there were 451 deaths from diarrheal diseases of children under five years; inspections were begun in 1895, and in 1898, when inspections extended over only one-third of the sources of the milk supply of the city, the number of deaths from the same cause was but 231—a decrease of nearly 50 per cent.

Some of the provisions of the bill proposed for the District of Columbia, besides those already mentioned, are worth enumerating. Permits to sell milk or to bring it into the District are required. None but pure, unadulterated milk, which has been cooled and preserved at a temperature below 60° F., shall be brought into the District. Milk is forbidden if taken from a cow less than 15 days before or 10 days after parturition, or if the cow is suffering from disease liable to render the milk unwholesome. The dealer is required to cool milk to a temperature not exceeding 50° F. and to keep it so cooled. Skimmed milk may be sold, but must be up to standard and must be labeled "skimmed milk" or "separator milk." Persons suffering from or exposed to communicable diseases shall not assist in the production or sale of milk. A list of sources of supply shall be conspicuously posted by dealers. Milk shall not be represented as coming from "tested" or "tuberculin-tested" cattle, unless the cattle actually have been tested and marked by the health officer. The District Commissioners are authorized to make regulations to secure proper water-supply, drainage, ventilation, cleanliness, etc., of premises on which milk is produced, held or sold. Violation of the act is punishable by a fine not exceeding two hundred dollars.

We do not underestimate the importance of the work of voluntary commissions such as have been established by the Medical Society of the County of New York, or the Philadelphia Pediatric Society. Such commissions are of great educational value, and their certificates are a source of comfort and safety to a limited number of intelligent consumers and of benefit to producers and dealers who are willing to cooperate. In the long run the marked improvement of a few dairies will have a beneficial effect on the entire milk supply. But for large cities, where the great mass of consumers are ignorant of hygienic laws, indifferent to methods of production or handling of milk and interested only in obtaining a fluid which looks like milk, which will yield a little cream and which is as cheap as possible, voluntary inspection and certification means slow improvement through a creeping method of education. Laws such as the one proposed for the District of Columbia are more offensive to unprincipled and filthy producers and dealers, but if properly enforced are of greater educational value and more potent for reform.

"PROFESSIONS AND TRADES."

UNDER this caption the *British Medical Journal*, Nov. 1, 1902, gives an abstract of the address of Sir Thomas Barlow to the friends and well-wishers of the National Dental Hospital and College, made after he had distributed the prizes to the students. "Dentists," he said, "should be proud of their profession, for he considered that it was to a considerable extent a profession. He regarded as professions those callings as the Church, the Law and Medicine in which one man consulted another as to his line of action in a given case and the professional man for the moment became the absolutely disinterested skilled adviser. The advice given was entirely irrespective of any advantage he might himself derive from it and the work of a dentist in that sense was just as professional as the work of a doctor. In regard to operative work they were on the same footing as the surgeon." "In dentistry certain mechanical arrangements had to be made and adjusted." "That work was not strictly professional." That was the "trade side of a dentist's work." "It was not possible for the dentist to avoid being a mechanician, but he could separate in his own mind and conscience the two things." "In proportion as the professional responsibility of dentistry was developed, as it would gain in esteem." Also this, "It was clear that in proportion as a general practitioner made profit out of the sale of drugs he was a tradesman."

Now, in all this, that which strikes us of the American Continent so forcibly, is the great pains the English mind takes to keep up a distinction between what is *trade* and what is *not-trade*. For after all that is the kernal of the whole matter. Anything that is trade is stigmatized, has only a tolerable degree of respectability, hence the need of distinguishing clearly from it whatever is *professional.* How has Sir Thomas succeeded on this occasion?

His first point was as to those callings "in which one man consulted another" for disinterested advice. Now is it true that the Church, the Law and Medicine act as consultants in the perfectly ("absolutely," he said) disinterested manner Sir Thomas speaks about? We frankly state our belief that it is not true, for in every one of these instances the skilled and learned opinion is given with the expressed understanding that it has a value in money which compensates *in some measure* for the devotion of a life to the giving of it; and this measure is always, at the least calculation, the measure of the means of subsistence.

On the other hand, outside of the strictly so-called learned professions enumerated by Sir Thomas, are we not familiar with the frequency of occurrence of that which he claims as peculiar to these learned professions, viz., the constant resort to, and dependence on, the opinion of consultants because of their special knowledge and skill? It is true of the profession of teaching, of engineering, in all its various branches, of gardening, of architecture, and in fact of very many branches of skilled industry. The house decorator is a case in point. And what is true of this last is true of all, that in no case is the consultant purely disinterested as claimed. It is not true of the Church, it is not true of Medicine, and it is eminently and proverbially untrue of Law.

Next, Sir Thomas would have us see in the mechanical side of a dentists's work, its plebeian character and, in the sale of drugs, a physician's degradation. We ask, why does this distinguished confrère close his eyes to the fact that the physician's mechanical skill (in pure physics or mechanics) is as indispensable to him as his knowledge and skill and as inseparable from his surgical work as it is in the case of a dentist? And surely he cannot be blind to the inevitable necessity of the physician's trade use of drugs. Even in the most exclusive attitude of a general practitioner, if he administers a hypodermic his drug and skill both enter into the consideration. It is mere quibbling to try to shove aside the exchange character of the doctor's service. This shutting of one's eyes when it suits one's wishes is the old trick of the ostrich burying its head in the sand.

The fact is that all life is service that is worth anything—the more effectual the life the more positively is it one of service. And one life touches every other life at very many points. The mere assumption of superiority because of the kind of work is invidious and distasteful to frank minds. By all means let there be a choice of service, but let it be without stigmatizing that of others. That would be base ingratitude, since all service is indispensable. There is no such thing as absolute independence. The doctrine of interdependence of one man on all other men needs to be honestly seen and frankly admitted. It will contribute vastly to the general comfort. We admit there is a reasonable ground for distinction in the learned professions, but it does not lie in the direction claimed by Sir Thomas Barlow. He has clearly missed the higher view. It seems to us a plain observation that every life has three chief sources of anxiety, the spiritual, the physical and the material, or more plainly the soul, the body, and material things. The minister (euphemistically so called), the doctor, and the lawyer, stand at the door of these three anxieties. Therefore, in a purely academic sense, they are exalted in their office. Time has set its stamp on these services upon which different generations of men have set varying estimates. But we hold that it rests with each class to determine the dignity and worth of its own service by the character which it throws into it. Viewed in this way we see no more of *trade* in the calling of the dentist than we do in that of the physician.

INTERCOMMUNICABILITY OF TUBERCULOSIS.

It was in August of last year that Professor Koch startled the medical world and produced one of his favorite scientific surprises by announcing at the British Congress for Tuberculosis that so-called animal and human tuberculous processes were independent affections and incapable of being conveyed from the animal to the human species and vice versa. As many of the legal regulations for the inspection of the health of cattle are founded on the assumption that human and animal tuberculosis are essentially identical diseases modified by difference of environment but quite capable of proving infectious to either species under favorable circumstances, Koch's declaration seemed to show that our law-making had really been unnecessary meddling with things not properly understood.

The report of the proceedings of the recent meeting of the British Medical Association shows that the question is still under discussion because of a misunderstanding as to what really constitutes infection in tuberculosis, but a review of the literature of the subject for the past year shows an overwhelming preponderance of authoritative opinion opposed to Koch's views.

At the Congress for Tuberculosis itself and in the medical journals of the world vigorous protest was at once made against the new idea. Most of those capable of speaking with authority took part against Professor Koch. Here in New York at a meeting of the New York Academy of Medicine Professor Theobald Smith refused to credit on bacteriological grounds Koch's argument as to the essential distinction of the bacilli that produced animal and human tuberculosis while Professors Janeway and Jacobi insisted that there were good clinical observations to support the idea that bovine tuberculosis had been conveyed to human beings in the milk from the diseased animals. These opinions represented very fairly those held by most clinical observers of large experience.

During the year other authorities have added their protest. Professor Behring's work recently reviewed in our editorial columns has for its principal message to the medical men of the world the system of inoculations by which cattle can be rendered immune to tuberculosis. These inoculations may be carried out with cultures obtained originally from the lesions of human tuberculosis as well as those obtained from tuberculous cattle, and in some cases it would seem that the bacilli of human tuberculosis are more efficient than the others. A number of Behring's observations show that the bacilli from human tuberculosis patients when in pure culture may prove fatal even for animals of the bovine species. These bacilli may be rendered more virulent by passage through susceptible animals as sheep. With regard to the intercommunicability of human and bovine tuberculosis Behring says that he leans strongly toward the opinion held by de Jong in *La Semaine Médicale,* 1902, No. 3. De Jong says: "It must be admitted that the bacillus of bovine tuberculosis possesses a virulence superior to that of the bacillus of human tuberculosis, but it cannot be admitted that this superiority of virulence demonstrated by the action of the bacillus in comparative experiments made on cattle, sheep, rabbits, dogs and monkeys may not also be displayed in its action on man."

In quoting this opinion so favorably Behring is only reaching expressions recently reiterated by many prominent foreign authorities on the subject. Nocard the distinguished bacteriologist and veterinarian who at Alfort has done so much work with Chamberland and Roux of the Pasteur Institute of Paris, says that not only is bovine tuberculosis communicable to man but human tuberculosis may be conveyed to cattle. He claims to have seen cases in which the development of tuberculosis in a herd of cattle followed directly upon the employment of a stable attendant who was suffering from tuberculosis in an active stage and was uncleanly in his habits. Nocard insists then, as a matter of prophylaxis for cattle that attendants must not have tubercle bacilli in their sputum, or if slightly affected, must exercise the most careful precautions so as not to convey the disease. This is the other side of a very important practical question.

Nocard showed, several years ago, by a series of very ingenious experiments in which tubercle bacilli of various kinds were grown in collodian sacs deposited in the peritoneal cavities of different animals, that even the bacilli of avian tuberculosis which grew normally at a temperature much higher than that *of mammals, could be* converted into bacilli resembling in respect the micro-organisms that are virulent for men and animals. Prof. Landouzy in his clinical lectures some years ago pointed out that the sympathetic deaths of animals after the lingering illness and death of a master or mistress was frequent and usually due to the fact that the animals had become infected by the tuberculosis of their human friends, rather than to any sentimental effect upon the nervous system or the heart, or whatever else is supposed to be sympathetically affected in the animal under these circumstances. In this category of pet animals Prof. Landouzy includes also birds and fowl in this declaration. If the conversion of avian and human tuberculosis into one another is possible then there would seem to be very little difficulty with regard to the intercommunicability of the forms of the tubercle bacilli that affect animals.

Recently Dr. Ravenel, in giving the details of some work done at the Laboratory of the State Live Stock Board of Pennsylvania, reviewed the whole subject of the intercommunicability of human and bovine tuberculosis. Careful experiments made by himself in conjunction with Dr. Leonard Pearson, State Veterinarian of Pennsylvania, the details of which may be found in the Proceedings of the Pathological Society of Philadelphia for May, 1902, and other sources, demonstrate that Koch's statement that human tuberculosis cannot be transmitted to cattle is erroneous and untenable. In confirmation of this conclusion Dr. Ravenel quotes a number of authorities.

With regard to Koch's second proposition, the impossibility of the transmission of tuberculosis from cattle to man, experimental work is impossible but a number of accidental inoculations of this kind have been observed that seem to show beyond all doubt the danger there may be for human beings from this form of infection.

Dr. Ravenel's conclusion is that the evidence at hand forces us to the opinion that human and bovine tuberculosis are but slightly different manifestations of one and the same disease, and that they are intercommunicable. In spite of the authority of the great discoverer of the tubercle bacillus we must consider that bovine tuberculosis is a menace to human health. Dr. Ravenel adds, "We are not in a position at the present time to define positively the extent of this danger but that it really exists cannot be denied." In the past there has been probably a tendency to exaggerate this risk thus involved, but however great this exaggeration may have been it does not now justify any attempt at belittling the present danger and it would be the height of folly to blind ourselves to it.

ECHOES AND NEWS.

NEW YORK.

The Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine announces that the sum of $1,000 will be awarded to the author of the best essay in competition for the above mentioned prize. The subject of the essay, as stated, shall be, "The Etiology, Pathology and Treatment of the Diseases of the Kidney." Essays must be presented on or before Oct. 1, 1904. Each essay must be in English, typewritten, designated by a motto, or device, and accompanied by a sealed envelope, bearing the same motto, or device, which shall contain the name and address of the author. No envelope will be opened except that which accompanied the successful essay. The Academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it. The Academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months. An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. The original of the successful essay shall be the property of the Academy, and, according to the deed of gift, will be published in its transactions. The essays shall be transmitted to the committee of the trustees of the New York Academy of Medicine on the Edward N. Gibbs memorial prize.

For State Hospital Cooperation.—The aims and plans of the Pathological Institute of the New York State Hospitals were discussed by Dr. Adolf Meyer in a paper which he read before the physicians on Ward's Island recently. The institute was founded by Dr. Ira Van Gieson and reorganized last year. As to what must be accomplished Dr. Meyer said: "We must make the work of the physicians as medical as possible, abolish all regulations which derange their work; in short, all and everything that makes a young assistant put trivialities above medical accuracy. We must investigate how large a force is required to reach a standard of work on which we can agree. We must make somebody responsible for the accuracy and efficiency of the medical work which the superintendent cannot possibly supervise well enough where he is responsible for all the administrative burdens; and this person, or these persons, let us say the older members of the staff, must be officially obliged to be able to be helpers to the younger members, sources of instruction and stimulation." Dr. Meyer argues that medical schools do not provide the necessary training for actual hospital work and that assistant doctors in the hospitals come unprepared for special work. "Under these conditions," Dr. Meyer says, "the hospital system must help itself." It has been urged that the prime duty of the institute should be original research work and the discovery of better methods of prevention, treatment and cures. This, he says, is the ultimate object.

New Superintendent of Bellevue.—The Trustees of Bellevue and allied hospitals have invited Dr. William Mabon, the Medical Superintendent of the St. Lawrence State Hospital at Ogdensburg, to accept the position of Superintendent of the hospitals under their charge. Dr. Mabon graduated from the Bellevue Hospital Medical College in 1881. After several years spent in private and hospital practice, he entered the service of the State in 1887, having received the appointment of Assistant Physician at the Utica State Hospital for the Insane. He remained at Utica until October, 1895, when he was appointed Medical Superintendent of the Willard State Hospital. This hospital was in need of reorganization, and it was believed that Dr. Mabon's experience and training and executive ability qualified him for the work. In one year the hospital was placed upon a sound administrative basis, and in October, 1896, the managers of the St. Lawrence State Hospital at Ogdensburg called him to the Superintendency of that hospital to succeed Dr. Wise, who had been appointed President of the State Commission in Lunacy. Under Dr. Mabon's management, the reputation of the hospital as leading in all the best methods for the treatment of the insane has been fully maintained. With the consent of the State Commission in Lunacy and of the State and Municipal Civil Service Commissions, Dr. Mabon now returns to New York City, and will take charge of Bellevue and its allied hospitals, on Jan. 1, 1903. In view of his lay experience in the State service, and his proved administrative capacity, it is confidently expected that he will raise these hospitals to the highest state of efficiency. In addition to his executive duties, Dr. Mabon will also act as consulting physician to the Pavilion for the Insane of Bellevue Hospital.

Health Department Notification and Microscopical Diagnosis of Malarial Fever.—It is the earnest desire of the Department of Health to acquire all possible information as to the occurrence and distribution of malaria in New York City, with a view to its eventual stamping out. As this can only be done with the cooperation of the medical profession, all physicians are hereby requested to notify the Department of Health of all cases of malarial fever coming under their observation. Too great stress can not be laid upon the statement that it is not the desire or the intention of the department to interfere in any way with the patients. They will only be visited with the consent of the attending physician. Information is desired regarding the location of malarial fever in New York City, so that as far as possible proper measures may be taken to correct the unsanitary conditions which produce it. Malaria, as far as we know, is always transmitted by means of the bites of certain mosquitoes (Anopheles). These mosquitoes can be comparatively easily located and identified, and their breeding places found. In the majority of instances the occurrence of a case of malarial fever in a given locality means the existence of a breeding place of the Anopheles mosquito close at hand. Recognizing the above facts, it is the intention of the department to investigate every case of malaria occurring in New York City, with reference to the source of infection—*i.e.,* the breeding places of the mosquito. These discovered and destroyed, it is hoped that not only will the number of cases of malaria be greatly decreased, but also the spread of the disease from one section of the city to another be prevented. Malaria is common in the outlying sections of the city, and the excavations going on in the various boroughs afford excellent starting points for local epidemics of the disease. To facilitate the desired notification of malaria by physicians, special postal cards for furnishing the wished-for information have been prepared. A supply of these cards will be sent to any physician on request; they are to be filled out and posted, just as is done in reporting a case of diphtheria or other notifiable disease. In return for such helpful cooperation on the part of physicians, the Department of Health has determined to make free microscopical examinations of the blood for malarial parasites a part of its routine work. Outfits consisting of glass slides, surgical needles, information blanks and full directions for preparing specimens, can be obtained at any of the culture stations of the department, where they may later be left for collection and forwarding to the Diagnosis Laboratory. Reports will be mailed by noon on the day of examination. Where the telephone call of the attending physician can be ascertained, the results of examination will be telephoned at once. If, for lack of time or other reasons, the attending physician is unable to take the blood himself, on notifying this department Fifty-fifth street and Sixth avenue, telephone, 1204 Columbus) an inspector will visit the patient and prepare the specimens. Further, should any physician desire the inspection of any given locality with reference to the existence of the breeding places of mosquitoes and their subsequent destruction, he has only to notify the department.

Prevention of Malaria.—The Department of Health of New York City earnestly desires the intelligent help of all householders in the prevention of malaria. This disease, which is also called "Ague," "Chills," "Chills and Fever," "Dumb Ague," has been thought due to stagnant water, to upturned soil, to bad air, and other causes. It has now been proved, beyond doubt, that it originates from the bite of a certain kind of mosquito (Anopheles), and as a rule, in no other way. This mosquito is not born with malaria, but gets the germs into its stomach by biting a person already infected. After the lapse of about eight days, such a mosquito becomes capable of infecting other persons, previously healthy, by its bite, thus passing the disease on indefinitely. To prevent malaria, therefore, the dangerous mosquitoes must be destroyed or their bites avoided. In practice, both expedients are desirable. As the malarial mosquitoes bite as a rule only at night, one will be usually safe by protecting the bedroom, either with screens at the windows or a mosquito bar carefully arranged over the bed. Before going to bed one should kill all the mosquitoes resting on the bedroom walls, in the closets, or under articles of furniture, as the insects already in the room are most apt to give trouble. Moreover, all cases of malaria already developed, must be carefully isolated under mosquito netting until pronounced by a competent physician to be cured. Otherwise, malarial mosquitoes biting these persons, and flying out of doors again, may carry the infection some distance in all directions. Various epidemics in our suburbs, in past summers, have been thus begun. The other, and still more important measure, is, to *prevent the breeding* of mosquitoes in one's neighborhood. All mosquitoes, the malarial as well as the common household pests which only annoy us, require standing water to lay their eggs in. Mosquitoes will lay in water barrels, pans, tin cans, wells, springs, rain pools, cesspools, pots, kettles, drainage traps, ponds—in short, anywhere where stagnant water is found. Running streams are not apt to support the young, unless the current is sluggish. Large bodies of water are usually kept clear by the small fish in the water—minnows, small stickle backs, sunfish—except when the margins of the water are cumbered with grass, slime, or leaves, preventing the fish from getting at the mosquito larvæ, which are very expert at hiding. Mosquitoes, as a rule, can not live in salt water. To kill the mosquito larvæ, therefore, the rule is simple: *no standing water.* Where standing water *must be had* for washing or drinking, the top of the receptacle should be closely covered with wire gauze—not the smallest opening being left at the margin. When drainage cannot be made possible, the surface of the water should be covered with a film of kerosene oil. The oil may be poured on from a can or sprinkler. It will spread of itself. One ounce of oil to fifteen square feet of water is enough. The oil must be renewed about once a week during the mosquito season. Mosquitoes do not fly far from their breeding places, and if all the householders in a given neighborhood will observe the simple rules given, experience has already amply proved that the results will be amazing. Persons keeping stagnant water on their premises are guilty of maintaining a nuisance, and it is the purpose of the department to proceed against all who neglect the warning of the department in this respect. Where large bodies of water, the drainage of which is too expensive for private enterprise, are in question, the department hopes to enlist the assistance of the proper city authorities, so that there need be no reason why the plague of mosquitoes and malaria in the suburbs of New York, should not be entirely removed. Cases occurring among those unable to pay for the services of a private physician, will, upon request, be visited by a department inspector.

Smallpox Prevention and the Health Department Notice.—The Board of Health earnestly desires to enlist the cooperation of the medical profession in a determined effort to free New York City from smallpox and to prevent the reappearance of the disease during the coming winter. As is well known, the disease prevailed very extensively in the city during the winter and spring months of the last two years. At the present time there are few cases in the hospitals of the city, but there are numerous cases in many communities in close relation to New York. The city is thus constantly exposed to reinfection. The present rather satisfactory condition is to be ascribed to the very large numbers of vaccinations made by practising physicians, and to the extensive measures adopted by the Department of Health in January, 1902, to bring about general vaccination, especially in the tenement-house districts, aided by the normal decrease which occurs with the appearance of warm weather. The board is apprehensive of the reappearance of smallpox with the advent of winter, and it desires to adopt every possible precaution to prevent this. Experience in the recent outbreaks in New York City, contrary to the general opinion, has shown that the majority of the cases occurring here are not in unvaccinated persons, but in those who have been vaccinated successfully some years previously, but who have not been revaccinated, and in whom the immunity resulting from the first vaccination has been lost. The prevalence of the disease has been largely the result of the neglect of revaccination at proper intervals, and not to the failure in primary vaccinations. Protection conferred by vaccination is almost absolute, in the experience of the department, for certain periods varying in different persons from three to seven years. The board now appeals to the members of the medical profession to use their best endeavors to see that all the members of their own families and those of their patients, including particularly servants, are vaccinated or revaccinated, as the case may be, wherever the operation has not been successfully performed in the recent past (at least within five years). And the board also especially requests that all physicians officially connected with public institutions or societies of any kind will strongly insist that all the inmates of such institutions and the members of such societies be vaccinated or revaccinated as occasion requires. It is further especially urged that physicians watch the course of the vaccination, and where the result is not successful, a second vaccination should be performed. Care should be exercised to see that the virus employed is fresh and reliable. It is earnestly hoped that with the adoption of energetic measures now, the disease may be completely stamped out in New York and the city kept free from it. With this end in view, the board again earnestly appeals for the assistance of all practising physicians. Free vaccination may be had at the office of the Department of Health, Fifty-fifth street and Sixth avenue, daily, between 9 A.M. and 4 P.M., and on Sundays between 9 A.M. and 12 Noon. Each of the other borough offices will be open for this purpose from 9 A.M. to 4 P.M. Monday to Friday inclusive, and on Saturdays from 9 A.M. to 12 Noon.

PHILADELPHIA.

Reception to Dr. H. A. Kelly.—Following the meeting of the Obstetrical Society Dec. 4, the president, Dr. J. M. Fisher, tendered a reception to Dr. H. A. Kelly, of Baltimore, the guest of the society.

Dr. Mitchell to Be University-day Orator.—Dr. S. Weir Mitchell has been chosen to deliver the "University-day Oration" at the coming annual commemoration of Washington's birthday by the University of Pennsylvania.

Meeting of Homeopathic Asylum Committee.—The commission created by the last legislature to erect a State Homeopathic Hospital for the Insane met in this city Dec. 10 to open proposals for the various sites for the institution. The sum of $50,000 has been appropriated for a site and the coming legislature will be asked for an appropriation to erect the buildings.

New Jersey Has One Epileptic to Each 500 Persons.—The managers of the New Jersey State Epileptic Village report that there is one epileptic in the State for each 500 of population. The legislature will this winter be asked for the enlargement and improvement of the village where the State cares for 85 patients. Since 1898 nine patients have been discharged as cured.

Descriptive Lecture by Dr. Keen.—Dr. W. W. Keen delivered a lecture, descriptive of his recent tour around the world, at Griffith Hall, Dec. 2, for the benefit of the Bucknell Alumnæ Club of this city. The lecture was illustrated by the exhibition of oriental garments and by numerous photographs. During his 16 months' tour, Dr. Keen traveled more than 50,000 miles, visiting 27 different countries.

Blockley ex-Residents' Banquet.—The sixteenth annual banquet of the Association of ex-resident Physicians of the Philadelphia Hospital was held at the Bellevue, Dec. 2. About 85 members were present, some from New York and Baltimore. Dr. Richard C. Norris presided and toasts were given by Dr. John V. Shoemaker, on "The Future of Blockley;" William T. McLaughlin, on "The Past and Present of Blockley;" Dr. John H. Lamar, on "Blockley Rats;" Dr. Morris Tyndall, on "The Resident Staff," and Dr. James B. Walker, on "Olla Podrida."

Annex to School for Feeble-Minded Asked For.—The board of directors of the Pennsylvania Training School for Feeble-minded Children has decided to petition the legislature for $150,000 to build an annex for housing unimprovable cases. It is proposed to place the annex five miles from the main building. Citizens of Delaware county do not favor the plan, as it means more property exempt from taxation. This county, it is stated, now has more land for public institutions exempt from taxation than any other county in the State.

Change in Control of Charities to Be Recommended.—As one of the results of an inspection of the New York public institutions by members of the Philadelphia Board of Charities and Correction Dec. 3, it is stated that President John V. Shoemaker will recommend the abolition of that board, and the placing of charities under a commissioner and the House of Correction in the Department of Public Safety. The members of the committee visiting New York are reported as agreeing that the system of that city should be adopted here, so far as possible. Dr. Shoemaker is in favor of having at the head of each department a man who can give all his time to that work. One point in New York, especially attracting the attention of the committee, was that the inmates of the institutions are made to work. Here they cannot be given work because of lack of room.

Medical Society Postpones Action Regarding City Hospital Plans.—A special meeting of the Philadelphia County Medical Society was held Dec. 5 to consider resolutions of protest against the purchase of swamp lands for city hospital purposes. Before those resolutions were presented, Dr. R. G. Curtin, acting for the Medical Board of the Philadelphia Hospital, presented the following request: "The Medical Board of the Philadelphia Hospital respectfully requests the Philadelphia County Medical Society to take no action calculated to embarrass the Department of Charities and Correction and City Councils, in their efforts to separate the Philadelphia Hospital from the Insane Department and the Almshouse, and to secure the best and most available site for the latter, an end to which the medical board of the hospital has for 18 years been committed." In support of this request it was said that the medical board had knowledge that negotiations for the purchase of a suitable site for the almshouse were in progress and that no swamp lands would be acquired. In view of these communications, no action on the original resolutions was taken by the society.

Therapeutic Effects of the X-ray.—At the North Branch of the County Medical Society Dec. 8, Dr. G. G. Ross detailed the therapeutic results in cases of malignant disease treated by the X-ray. After stating that the changes taking place under X-ray treatment were probably due to trophic changes in the tissues exposed, Dr. Ross said that one of the most prominent uses of the X-ray at the German Hospital is as an analgesic in inoperable and recurrent cases. In this class was an osteosarcoma of the upper jaw which recurred in the glands of the neck and became exceedingly painful. Treatment relieved the pain. The same result was obtained in an osteosarcoma of the frontal region. They are not absolutely sure whether this relief of pain is due to a mental or a physical change. This question is especially pertinent in cases of ureteral and renal calculi. Some change is apparently exerted in the former condition as patients in whom ureteral calculus has been revealed by a skiagraph claim to have less pain subsequently, even when such a calculus is passing into the bladder and through the urethra. Relief of pain has also been noted in cases of fracture X-rayed for diagnostic purposes. Dr. Ross would not allow X-ray treatment to interfere with surgical methods in the case of operable growths.

Pathology and Physiology of Skene's Glands.—The Obstetrical Society of Philadelphia was addressed Dec. 4 by Dr. Howard A. Kelly, of Baltimore, who stated that during investigations small matters were apt to be overlooked in favor of larger ones. He has made a special study of some of the smaller points of gynecology and spoke regarding certain anatomical structures in relation with the female urethra—the labiæ urethræ and Skene's glands. The former are two folds of tissue meeting over the normal urethral orifice. Their functon is a mechanical one, to protect the mucous membrane of the urethra and Skene's glands from bacteria and leucorrheal discharges. Their anatomy varies considerably, this point being fully illustrated by the speaker by means of drawings. But little regarding the pathology and physiology of Skene's glands has been added since Skene's original observations. The glands can often be easily palpated when not enlarged or diseased by pressing the anterior surface of the urethra against the pubic arch with the index finger and rolling the urethra under it. This is also a good position for massage of the glands. When distended and diseased the glands feel like two wires rolling under the finger. Methods of examination include: (1) Palpation, (2) compression, (3) inspection, (4) sounding—to determine the contents, (5) injection—to determine the capacity.

Treatment of Diseased Skene's Glands.—This is mainly embraced under the following heads: (1) Systematic emptying by pressure; (2) massage; (3) injection of fluids, as two to ten per cent. silver nitrate, pure carbolic acid, or tincture of iodine; (4) incision of abscesses; (5) incision and entire exposure of the glands; (6) burning out the glands with the cautery; (7) entire extirpation. Injection is a very important method. Dr. Kelly has discarded the use of ordinary hypodermic needles for this purpose as there is risk of injecting too much fluid and the packing of the syringe is damaged by the materials used. He now uses hollow needles of any desired size over which is slipped a piece of small rubber tubing. With this simple instrument an exact amount of fluid may be injected. When pure carbolic acid is used the whitened orifice of the urethra should be touched with alcohol and boric acid solution.

The Function of Skene's Glands.—Dr. Kelly said that this question has previously not been satisfactorily answered, but he believes that he has solved that problem. In his view the glands are partly for lubricating the labiæ urethræ, but they are mainly sexual in function. That is, they lubricate the surrounding parts during intercourse. The first effect of a body entering the vagina is to cause an impact of, and to displace, the tissues surrounding the urethral orifice. The orifice is partially opened and the mucous membrane comes in contact with the penetrating body. When this occurs, fluid is poured from the glands to lubricate and protect the parts, this being comparable to the action of the vulvo-vaginal glands in protecting the vulva and vagina. Dr. Kelly, in closing, cited several cases to illustrate various phases of disease of these glands. In one case gonococci were found in the pus from the glands. Perfect recovery followed persistent treatment, which included 26 injections of the glands. Another patient exhibited malaise, chills, pyuria, etc., and various diagnoses had been made. Examination showed that the pyuria was due to inflamed Skene's glands. This case was important because of the many serious conditions suggested by the presence of pyuria. In another case the ducts of the glands were entirely choked by masses of the smegma bacillus.

CHICAGO.

Contagious Diseases Neglected.—A few days ago a citizen of this city carried his daughter in his arms from hospital to hospital. He carried her in vain. It is said no hospital would receive the child. As he reached the Health Commissioner's office she died. What was the explanation of such an apparently inhuman failure to relieve distress? The explanation was that the child was suffering from diphtheria, and that no hospitals in Chicago, except the County and the Presbyterian, have accommodations for contagious cases. The County Hospital is always full. The Presbyterian Hospital contagious ward has only 10 beds, and these are reserved for scarlet fever. It follows that a diphtheria case, failing to secure admittance to the County, is debarred from hospital care. Again, therefore, must the cry go up for better treatment of contagious disease cases in this city. The Chicago *Daily Tribune* remarks, editorially, that "two courses are open. First, build a hospital entirely for contagious disease cases. Second, extend the accommodations of the hospitals already in existence. Both on the score of initial expenditure and on the score of administrative expenditure, the second course has much to recommend it. If there were a decently large number of hospitals in Chicago that had contagious disease wards, the situation would be well in hand. Whether we treat contagious diseases in one place, however, or in several, the plain proposition remains that we must treat them somewhere. We cannot go on leaving them untreated. We treat non-contagious diseases, which are of harm only to the patient and fail to treat contagious diseases, which are of great possible harm to the whole community. If one were starting out with a hospital scheme for a new city which was entirely without hospitals, one's first thought would certainly be that contagious diseases, as social dangers, should have precedence over non-contagious diseases, as individual danger. In Chicago, at present, this order of thought is reversed. Diseases which cannot spread we care for. Diseases which are by nature calculated to spread, we neglect. Not long ago the Bureau of Charities found a mother with five children in one of the downtown railway stations. All the children had whooping-cough. Hundreds of people had been passing by them every hour. The Bureau of Charities used every means in its power to get the five cases into a hospital. The thing could not be done. There was no hospital which could give such cases proper attention. What better illustration could be given of the need of better facilities for handling contagious diseases?"

Woman's Club Planning a Hospital.—The Woman's Club is planning a hospital for children. Naturally, this hospital will have a contagious disease ward. If it can be proved that children's wards for other diseases are also necessary, the children's hospital ought to be built, and the contagious disease ward included. If this cannot be proved, then either contagious disease wards for both children and adults ought to be added to the hospitals already in existence, or else a special contagious disease hospital ought to be erected. It is time for Chicago, either as a municipality or as the home of wealthy and generous people, to bring the present situation to an end.

Isolation Hospital.—An isolation hospital for the temporary shelter of pupils afflicted with contagious diseases will be built at the Parental School at a cost of $3,000, an appropriation for this purpose having been made by the Buildings and Grounds Committee of the Board of Education.

Suit for Injuries Alleged to Have Been Sustained by X-ray Treatment.—Suit has been begun by John Bortoli against the Northwestern University and Lakeside Hospital for injuries alleged to have been received during the course of treatment at these institutions with the X-ray; $12,000 damages is claimed.

Suit for Nitrogen Gas Treatment of Consumption.—A suit has been entered in the Circuit Court of Cook county by Frank B. Pease, executor of the estate of the late August Dahlin, against Drs. John B. Murphy and August F. Lemke for $25,000 damages. The main allegation of the plaintiff is that a treatment described as the nitrogen monoxide gas method, which it is claimed was invented by Dr. Murphy, and applied to Dahlin by Dr. Lemke, materially shortened the life of Dahlin. The outcome of this suit will be watched with interest.

Culpable Cause of the Spread of Contagion.—A culpable, even criminal, cause of the spread of contagion is being investigated by the Health Department, with a view of presenting the facts to the medical organizations of the city, and to the State Board of Health. This cause is the growing practice among certain physicians of the baser sort of giving certificates of death from contagious diseases, in which certificates some non-contagious disease is assigned as the cause. This is done usually at the request of the family, who wish to evade the restrictions of the Health Department on contagious disease funerals. In one recent case of death from diphtheria the certificate gave the cause as "broncho-pneumonia," and the sole motive of the family in procuring this perjured certificate was that the funeral might be delayed until the following Sunday, while the regulations of the department require that burials of contagious disease bodies be made within 36 hours after death. In another recent diphtheria death the cause assigned in the certificate was "acute meningitis," and the impelling motive was that a public funeral might be held, contrary to the rules of the department forbidding public funerals in such cases.

Preliminary Report Concerning the Power of Certain Human Organs to Destroy Uric Acid.—The author of this paper, Dr. Alfred C. Croftan, called attention to the fact that two perversions of the uric acid chemism may be considered typical and fairly constant of the uric acid diathesis, namely: (1) That the uric acid in the blood is increased in amount and (2) there is a tendency in this diathesis to the deposit of crystalline sodium urate in certain points of predilection. The second factor may be considered in a sense dependent on the first one, for it is probable that urate concretions can only be deposited if the uric acid in the blood is increased above normal. Any attempt, therefore, to understand the causes of the uric acid diathesis, and any endeavor to treat this disease must be directed towards understanding the factors that determine the accumulation of uric acid, and towards preventing this accumulation or reducing it after it has once occurred. The accumulation of uric acid in the blood may manifestly be due to one of three causes, or to several of these causes combined, namely: (1) There may be excessive formation of uric acid; (2) there may be retention of uric acid; (3) there may be deficient destruction of uric acid. The speaker referred to previous work and to investigations concerning the increased formation and the retention of uric acid in the blood, and announced that he would limit his discussion to the elucidation of the third factor alone. In order to understand the pathology of a disease, it is necessary to understand the function or functions, the perversion of which it represents. In this concrete case it is necessary, therefore, to determine whether uric acid is normally destroyed in the mammalian organism before we can undertake to explain certain features of the uric acid diathesis by assuming a perversion of this function.

The administration of uric acid by mouth to human subjects or to animals leads to the excretion in the urine of only a small proportion of the uric acid that is ingested. In order that experiments of this character may be considered valid, it is essential that the subject or the animal be placed on a diet that is altogether free from uric acid or from uric acid-forming substances (purin bodies). The results of these experiments, while positive, are ambiguous, for there are many possible sources of error. We do not know positively, for instance, whether uric acid is absorbed from the intestine, or whether it is destroyed by the bacteria of the gastro-intestinal tract, or by the action of the gastro-intestinal secretions. Comparative estimates of the ingestion and the output of vitogen give doubtful results.

Another difficulty in performing experiments of this kind in animals, especially in rabbits, is to collect the urine quantitatively. For instance, rabbits only pass about five c.c. of viscid urine every hour that is loaded with phosphates, and it is manifestly a difficult matter to obtain all of this. Small errors, moreover, when calculated for so little urine become proportionately large. With the aid, however, of a mixture of salts that possesses great diuretic powers (the formula for this diuretic mixture was kindly placed at the disposal of the author by Dr. S. A. Matthews), it is possible to stimulate the flow of urine to a remarkable extent in rabbits, so that these animals pass as much as 100 to 150 c.c. of urine in an hour, the specific gravity of the urine passed, being occasionally lower than the specific gravity of the salt solution injected. By adding uric acid in alkaline solution to this diuretic solution, it is possible to force uric acid through the animal in a very short time, and it was determined that in the passage through the body over 85 per cent. of the uric acid was destroyed. The author then proceeded to describe the details of the intravenous method of stimulating diuresis and to give some animal protocols to substantiate his position. The results in human beings show that extracts made from the liver, the kidneys, and the muscles possess uric acid destroying power and that uric acid is converted into urea by their action. Watery extracts of these organs, mixed with sodium urate solution, and placed in the incubator for varying periods of time, produced a progressive loss of uric acid. The action of bacteria and the oxidizing action of the air were excluded by control experiments. Boiling seems to destroy the powers of these extracts. The kidneys seem to possess relatively the greatest uric acid destroying power; next the liver, and, last, the muscles. The author called attention to the clinical significance of the former findings, showing apparently that the amount of uric acid excreted gives only a relative index of the amount of uric acid circulated in the blood. He said that it represented, so to say, the algebraic sum of the uric acid formed, and the uric acid secondarily destroyed in the kidneys and the other organs. Uric acid must, therefore, be considered not a terminal product of metabolism, but merely an intermediary product. Dr. Croftan, in conclusion, made some suggestions in regard to the use of a ferment-like ("oxidase") body that he has succeeded in isolating from these organ extracts; he called attention to the possibility of reducing the accumulation of uric acid in the blood, and in this way, at least symptomatically, attempting to counteract one of the most typical perversions of the uric acid diathesis.

CANADA.

Correction re Dr. Norman Ross's Death.—Last week the death of Dr. Norman Ross of Detroit was reported in these columns as suicidal. Dr. J. J. Mulhern of that city states that this is incorrect. He attended upon Dr. Ross in his last illness and the cause of death was accidental. Dr. Ross had prepared two powders, one being strychnine for a vicious dog, and the other a sleeping powder. Unfortunately he placed these on the same mantel, and took the strychnine in mistake.

Controlling Tuberculosis in Montreal.—Last week in Montreal there was held a very largely attended public meeting presided over by Senator Drummond, for the purpose of considering what measures should be taken in that city for the prevention and cure of tuberculosis. A very large number of the medical men attended. Lord Minto, the Governor-General of Canada was present and delivered an address. Although he did not expect that sanatoria would be soon established he thought that the meeting would do much good in directing public opinion to a consideration of the question. A series of resolutions were adopted in favor of action and a committee was formed to create an enlightened public interest regarding tuberculosis.

Invited to Discuss Bubonic Plague.—Dr. Frederick Montizambert, the Director-General of Public Health for the Dominion, has been invited to a conference by Dr. Suchon, president of the State Board of Health of Louisiana, to be held at New Orleans during the present month, to discuss and devise measures to stamp out bubonic plague in San Francisco, which is alarming the boards of health all over the continent.

To Vote for a Sanatorium.—Toronto Civic Council after a somewhat tedious debate has decided to adopt the recommendation of the Board of Control, to submit the following question to the rate-payers duly qualified to vote on money by-laws at the forthcoming municipal elections in that city in January: "Are you in favor of the city contributing $50,000 towards the establishment of a sanatorium for the treatment of residents of Toronto suffering from consumption?" Should a majority of the ratepayers so vote, then the City Solicitor and Medical Health Officer will be ordered to procure the necessary legislation to enable the city to grant this amount of money.

The Yukon Medical Council.—The following practitioners in the Yukon Territory have been elected members of the Medical Council: President, Dr. D. MacLeod; vice-president, Dr. Barrett; registrar and secretary, Dr. A. E. Edwards; executive council, Drs. Barrett, Sutherland and Aford Thompson, along with the president and registrar as *ex officio* members.

Canada's Drink Bill.—For the year ending June 30, according to the annual report of the Inland Revenue Department at Ottawa, which has just been issued, the quantity of spirits produced amounted to 3,234,147 proof-gallons, as compared with 2,652,708 produced in the previous fiscal year. The raw material used in the production of spirits during the year, was 41,397,871 pounds of Indian corn; 9,449,057 pounds of rye; 3,432,066 pounds of malt; 413,465 pounds of oats, and 29,479 pounds of wheat. The people drank more spirits and beer last year than they did in the previous year. The quantity of spirits consumed was .796, against .767 for 1901; beer, 5.102 as against 4.737; wine, .90 compared with .100 for 1901. The consumption of tobacco was the same as in 1901, the figures being 2.404. Cigars showed an increase of 10,000,000, the figures being 151,780,516. Cigarettes showed an increase of 13,000,000, the number consumed being 134,236,034.

Annual Medical Banquets.—Both Trinity Medical College, Toronto, and the Medical Faculty of Toronto University, and their respective student bodies, held their annual banquets in that city on the evening of Dec. 3. Professor Barker, '90, Toronto, of the University of Chicago, was present at the latter and delivered a much appreciated address on the tendency of medical science. The following evening Prof. Barker was dined by Dean Reeve, when the members of his year in both schools were present. Afterwards Dr. Barker gave a lantern slide demonstration of the bubonic plague which was thoroughly appreciated. At the Trinity banquet, there was a very large attendance, nearly every student of the college being present. Dr. T. S. Harrison, Selkirk, Ont., a past-president of the Canadian Medical Association, was present, and gave some very interesting and amusing accounts of practice in this province 50 years ago. Dr. Harrison at seventy-five years, is still actively engaged in country practice. The Medical Faculty of the University of Bishop's College, Montreal, held their annual banquet on the evening of Nov. 6. Dr. W. H. Drummond, the "habitant poet" in replying to the toast "Our Dean and Professors," said that owing to the rapid development of Canada, the best of our medical students would not be emigrating to other countries in the future as they had done in the past. He also urged them to neglect society work and to work for the good of the profession generally throughout Canada.

Barber Regulations.—Regulations adopted by the Provincial Board of Health of Ontario, in session last week, governing barbers will be satisfactory. The first clause reads:—"A barber should be clean and neat in his person and methods; should use the bath regularly and should be particular in maintaining a healthy condition of the mouth and hands. No person suffering from any disease of the skin, scalp or hair should act as a barber, nor should anyone suffering from consumption or any disease commonly known as contagious serve in this capacity." Further regulations provide that a barber should not come in contact with any contagious disease, that persons recovering from contagious diseases should not visit barber shops, but should be attended at their own homes, and that all instruments used on such patients should be disinfected after use; for the regular cleaning of the shops; for the encouragement of customers to have used on them their own instruments, which should be compulsory in case of persons suffering from skin, scalp or hair diseases; for the use once only of a piece of alum for stoppage of blood; that sponges should not be used at all, and that a spoon or spatula, instead of the fingers, chould be used for the removing of vaseline from the vessel in which it is kept.—*Era*.

Personals.—Dr. Charles B. Shuttleworth, senior demonstrator of anatomy at Trinity Medical College, Toronto, is returning from England, where he has just successfully passed the examination for admission as a Fellow of the Royal College of Surgeons. Dr. George W. Badgerow, also of Toronto, has been successful in passing the examination for M.R.C.S.

Dr. Patrick B. Handyside, who has been for the past five years in charge of the naval hospital at Esquimale, B. C., has been replaced by Dr. Homer, who, with his family, is now en route from England.

GENERAL.

Biochemisches Centralblatt.—This is the title of a new publication to be published by the Gebrüder Borntraeger in Berlin devoted to the chemical side of medicine.

Gazetta Siciliana di Medicina e Chirurgia.—This new publication of Palermo will appear with the first of the new year.

Changes in the Medical Corps of the Navy.—Week ending Dec. 6, 1902.—Medical Director R. C. Dean, retired, ordered to Washington, D. C., for duty as president of Naval Examining Board. Medical Inspector S. H. Dickson, detached from the Marine Barracks, Washington, D. C., and ordered to the Iowa, for duty as Fleet Surgeon, South Atlantic Station. Medical inspector M. H. Simons, detached from the Iowa, and ordered home to wait orders. Surgeon M. H. Crawford, resignation accepted to take effect, Nov. 28, 1902. P.A.Surgeon M. S. Elliott, detached from the New York, and to temporary recruiting duty at Pueblo, Col., and thence to the New York. P.A.Surgeon J. C. Rosenbleuth, detached from the Wilmington, and ordered home. Asst. Surgeon H. A. Dunn, detached from Cavite Naval Station and ordered to the Vicksburg. Asst. Surgeon F. A. Asserton detached from the Kentucky and ordered to the Wilmington.

Bubonic Plague.—An interesting and important report has just been issued by the medical department of the British local government board. This consists of papers relating to the progress and diffusion of bubonic plague throughout the world during the period from 1898 to 1901. An account is also given of the measures adopted by the different countries for its control. The report is by Dr. Bruce Law, with an introduction by W. H. Power, P. R. S., medical officer of the board. An attempt has been made to show the origin of the disease and its extent and mortality. Dr. Law has had difficulty in collecting these facts for the reason that while some countries promptly and of their own initiative publish their plague statistics in accordance with the agreement of the Venice convention, others do not furnish the facts until they are applied for, and still others, it is said, distort or conceal the actual condition of affairs. Dr. Law states that frequent confusion has arisen from mistakes made in diagnosis at the beginning of epidemics, and the author of the introduction indicates, that notwithstanding the apparent preparedness of certain localities to receive the infection, the disease has seldom become quickly and largely epidemic, a circumstance which seems to show that plague does not at first adapt itself to localities where it has not previously and recently prevailed. Owing to the failures to detect early cases, it has been in many instances difficult to give the history of the origin of epidemics. Often by the time a given epidemic is admitted to be plague, the beginnings of prevalence are obscured by death, recovery, or other circumstances. The influence of rats in the diffusion of plague is also dealt with. Ashore, the affection has sometimes been simultaneous in rats and man, but sometimes rodents have been first affected and then man and sometimes the opposite. It would also appear that rats may be extensively affected and man remain free and that the reverse may also occur. It is pointed out that at sea the disease is not readily conveyed from rat to man and from man to rat. Ships have brought plague patients into port and yet the rats aboard have been exempt. Mention is made of the fact that at Glasgow, though rats were plentiful in the infected region, no disease was observed among them at any time in 1900, though careful bacteriological investigation was made. On the contrary, at Cardiff, though the mortality among rats was very large and pure cultures of plague bacillus were obtained from their bodies, only one case occurred in a human subject. There is reason to believe that at Cape Town rats died in large numbers several months before any known cases occurred among men. But on this point the evidence is not conclusive. With regard to men being free from disease on a ship having infected rats aboard, it is stated that in the case of the steamship Rembrandt, arriving at Bristol from Smyrna, January, 1901, rats dead of plague were found among the grain that formed the cargo, yet no illness occurred among the men aboard in a voyage of 18 days nor among 77 stevedores who unloaded the vessel. A similar instance is afforded by the steamship Pergamon, which, at about the same time, reached Hamburg from Smyrna and Algiers with rats dead of plague aboard, but the crew in good condition. Notwithstanding these observations, Mr. Power, in the introduction, points out that it would be unwise to relax precautions against the spread of plague by rats.

Obituary.—Dr. Timothy Field Allen, the author of an extensive encyclopedia of materia medica and a well-known physician of this city, died last week. He was stricken 14 months ago with apoplexy, which was the primary cause of his death. Dr. Allen was born at Westminster, Vt., in 1837 and was graduated from Amherst College in 1858. From that college he also received the degree of A.M. in 1859 and the degree of LL.D. in 1885. He was graduated from the medical school of the University of the City of New York in 1861. In 1862 he was acting assistant surgeon in the army. In 1867 he became professor of materia medica in the New York Homeopathic Medical College and in 1882 its dean. He was for a long time surgeon in the New York Ophthalmic Hospital and at the time of his death was its president. Besides his purely medical work, Dr. Allen made a study of botany and published several books on that subject. He was a charter member of the New York Botanical Garden.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, November 29.

THE REGIONAL DISTRIBUTION OF LONDON HOSPITALS—MR. JONATHAN HUTCHINSON AND THE LEPROSY QUESTION.

Attention is once more being directed to the aggregation of nearly all the large hospitals of London within a relatively small area. It was stated in evidence before Lord Sandhurst's Committee, which sat some years ago, that "within one mile of Middlesex Hospital (Berners Street) there are eight general and 26 special hospitals, with an aggregate of about 2,050 beds, as well as 13 dispensaries of various kinds; in fact, that by far the greater proportion of institutions for medical relief are within an area of two miles square." On the other hand, the Committee observed with regret that "on the south side of the Thames there is very little hospital accommodation compared with that on the north side. St. Thomas's and Guy's Hospitals are the only large general hospitals south of the Thames, but they are situated on the extreme margin of the southern district." The overcrowding of hospitals within a narrow area in the heart of London is harmful to the institutions themselves, to the private practitioners within their circle of attraction, and to the sick poor for whose relief they are intended. The hospitals, too closely packed together, are in danger of atrophy from mutual pressure; and the private practitioner has the bread taken out of his mouth that the gluttonous maws of the out-patient departments may be filled. On the other hand, the poor of the larger part of London have no hospital near them to which they can go in time of need, but have to make journeys, involving expense, fatigue and exposure, which often neutralize any good they might get at the hospital. A redistribution of the hospitals in accordance with the needs of the population is clearly indicated as the remedy for a state of things which is very inconvenient for patients and leads to something of the nature of commercial competition among the hospitals themselves. Some of them are situated in parts where land is of enormous value. For instance, a few years ago in a dingy region not far from St. Bartholomew's Hospital, a small site was sold for a price equivalent to $5,000 per square foot, and in some parts of Westminster land *lets* at $5 per square foot. In such quarters naturally the rates are proportionately high. The sites of some of the hospitals, for instance, St. George's, which is close to Hyde Park Corner, where beats the heart of fashionable life, and Westminster, which is close to the Houses of Parliament would, if offered for sale fetch immense prices, and the institutions would be enabled to move to a less expensive and more convenient quarter, with a surplus that would greatly increase their usefulness. Some years ago it was suggested by the present writer that the great hospitals might be moved a little way out into the country, a receiving house and an out-patient department being left in London. This would in no way impair their efficiency as medical schools, while it would materially improve the chances of the patients' recovery. Quite recently it has again been proposed that the Westminster, Charing Cross, and St. Bartholomew's should be transplanted into the suburbs of Battersea, Greenwich and Tottenham, respectively. The site values of these three hospitals are enormous. Perhaps the value of the 6½ acres upon which St. Bartholomew's stands can be estimated most accurately. The authorities of this hospital have just acquired an acre and a half of land for $1,250,000. This addition formed part of the site of the famous old Christ's Hospital School, where Coleridge, Charles Lamb and many other men whose names are a part of English literature were educated, and the remaining five acres occupied by the hospital must be at least as valuable. From this it would appear that the whole 6½ acres are worth well over $5,000,000. With such a sum a site as large could be secured in Battersea or Camberwell, and buildings erected, leaving still a substantial balance. Westminster Hospital stands on two-thirds of an acre, the value of which, by analogy, would seem to be worth $4,000,000. The acquirement of a new site and the erection of a new hospital should leave a balance which would probably place that institution in a sound financial position. Many of the hospitals in the congested area are acquiring the land adjoining them at ruinously high prices, and building extensive additional wings. In the past 10 years over $7,500,000 have been spent by the London hospitals in extending their boundaries. Yet the poor of London are moving further and further away from the heart of the metropolis. The result is that the laboring classes who cannot sacrifice a day's work for the luxury of a visit to a hospital, prefer to take the chance of leaving early symptoms of disease untreated. Hospitals exist primarily for the benefit of the sick poor, and secondarily for the furtherance of the healing art; and every penny spent on anything not directly connected with either of these objects is morally, if not legally, misappropriated. Hospitals have no right to occupy expensive sites or to sink money, which should go to the relief of human suffering, in palatial buildings for the housing of officials who, rightly considered, are parasitic growths drawing to themselves the blood which should nourish the institution. It is certain that the present state of things cannot continue. If the hospitals themselves fail to rise to the exigencies of the situation, the London County Council will take the matter in hand, and may be expected to deal with it without too tender a regard for the claims or interests of particular institutions.

The British Empire numbers among its teeming populations a considerable proportion of lepers. In India alone it has been estimated that there are some 250,000. About a dozen years ago a sensational journalist in search of "copy" got wind of a case of leprosy, which in the ordinary course of events came before the poor-law authorities, and straightway he proceeded to work up a "scare." It was explained that in every dermatological clinic in the metropolis there is always to be found a case or two of leprosy, and it is well known that there are others hidden in out of the way places in the country. Naturally, however, the papers preferred to work the sensation for all it was worth. The end of it was that the "Prince of Wales's Leprosy Fund" was formed, and polite society having salved its conscience by subscribing a few pounds, and a few pushful doctors having got a little advertisement out of the scare, the whole thing was speedily forgotten. One man, however, Mr. Jonathan Hutchinson, who took a leading part in the establishment of the fund seems to be determined to revive public interest in the matter. His own interest in it which for many years has been of a chronic character, has recently developed into an acute form, and he has been writing about it in season and out of season in the public press and in a small organ entitled *The Polyclinic*, which he controls. Most people thought that the "Prince of Wales's Fund" had long ago departed such life as it ever could be said to possess, and it was with something of the creepy feeling that might be caused by a ghost that we read in one apparently privileged newspaper that a meeting was held two or three days ago in connection with the Fund. At this meeting a paper was read by Mr. Jonathan Hutchinson on the present state of the leprosy question in India and Ceylon. The eminent surgeon stated that he proposes shortly to start for India to conduct an examination into the varying degrees of local prevalence of the disease and its relative increase and decline, with a view to gathering data which may enable him to form an inference as to its origin. This announcement will doubtless strike the casual reader as an edifying example of zeal for scientific research. But to those who know the true inwardness of the matter, it is distinctly comic. Mr. Hutchinson has long ago made up his mind that the cause of leprosy is the eating of fish. So firmly is he convinced of the truth of this ancient doctrine—for it is the oldest theory on the etiology of leprosy—that no fact however cogent which can be cited in opposition to it makes the least impression on him. If it is pointed out that in India some of the places where leprosy is endemic are many hundreds of miles from the sea, and that fish has never even been seen by the oldest inhabitant he argues, as the wolf did to the lamb, that their remote ancestors may have eaten it! He attributes the decline in the prevalence of the disease in this country to the Reformation which he professes to believe, by abolishing fasts abolished fish eating. The facts that leprosy began to disappear more than a century before the Reformation, and that fish had to be eaten because meat was forbidden to be sold on Fridays and in Lent under heavy penalties for more than a century after the Reformation, weigh as nothing in the curiously adjusted balance of his mind against a preconceived theory. He goes to India as he went to South Africa and to other haunts of leprosy, not to investigate, but to find facts that seem to support his theory. His mind is already made up, and like the obstinate old gentleman in Goldsmith's "Good-Natured Man," he likes to hear arguments when his mind is made up, because then he knows they can have no effect on his opinions. With the profession here his views on this subject have ceased to have any weight, but by the public he is still regarded as an oracle. He has entered on a campaign for the abolition of segregation which he holds to be useless and cruel on the ground that leprosy is non-contagious. It is nothing to him that the Leprosy Conference held in Berlin a few years ago with virtual unanimity strongly affirmed the contagiousness of the disease, and as a consequence, urged more stringent legislation for the removal of lepers from intercourse with the healthy community, and that this doctrine is accepted practically by every pathologist and dermatologist throughout the world. It is a case of *Athanasius contra mundum.* And this Athanasius of medicine does not disdain the aid of sensational journalism to support his cause. It is improbable, however, that his mischievous agitation will do much harm. British officials in regions infested by leprosy have seen enough of the beneficial effects of segregation to be easily shaken in their belief that it is necessary. Once before, nearly 40 years ago, the British government of the day referred the question to the London College of Physicians. That learned body presented an inept report to the effect that the evidence was against the theory of contagiousness. The result was that attempts at segregation which had previously been made in several colonies were abandoned. The consequence was an increase in the prevalence of the disease which opened the eyes of the administrative authorities to the futility of the advice given by the College. But the evil wrought by that ill-inspired counsel lived long after the report itself was recognized to be in a scientific sense dead.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

VASCULAR AND GLIA CHANGES OCCURRING IN THE VESSELS OF PATIENTS SUFFERING FROM GENERAL PARALYSIS OF THE INSANE—ANEMIA DUE TO ANCHYLOSTOMA DUODENALE IN DOLCOATH MINE IN CORNWALL—AN EPIDEMIC DISEASE WHICH OCCURRED IN LINCOLN IN MAY, 1902—PSORIASIS FOLLOWING VACCINATION—CHOLEDOCHOTOMY IN A CASE OF CHRONIC JAUNDICE WITH CHOLANGITIS—PATHOLOGY OF SLEEPING SICKNESS—POSTMORTEM WARTS—ECTOPIC GESTATION—AMMONIA AND ANESTHETICS.

F. W. **Mott**, at the Pathological Society of London, Nov. 18, 1902, demonstrated the changes occurring in the vessels of patients suffering from general paralysis of the insane. He said that there was an apparent increased vascularity in such cases, this increase being due to the staining of cells accumulated in the perivascular spaces. These cells, which were first described by Unna, were called "plasmatocytes" and their presence was by some authorities considered as pathognomonic of general paralysis of the insane. The origin of these cells was doubtful. They might arise from the endothelium of the vessels or from the cells lining the perivascular lymphatics. Dr. Mott compared the changes found in Congo sickness and in cases of leucemia with those found in general paralysis of the insane, and showed that although the vessels might be occluded in these conditions, there was but little change in the nerve cell. In animals in which all the vessels passing to the brain had been ligated, there was no cell proliferation around the vessels. He then demonstrated the glia change which took place in nervous tissue which had undergone degeneration.

J. S. **Haldane** described an outbreak of anemia due to *Anchylostoma duodenale* in Dolcoath mine in Cornwall. Only miners working in one portion of the mine were affected. The outbreak had existed for probably from seven to eight years, but during the past two years the number of cases had diminished. The anemia was of the chlorotic type and was attended by the usual symptoms. He discussed the question of the cause of the anemia in these cases and came to the conclusion that it was not due to loss of blood taken by the Anchylostoma. Skin affections had been a prominent feature in some cases and resembled an urticaria. The manner in which the disease was spread was clear, for excreta were deposited anywhere in the mine, and thus were carried by the boots of the miners on to the ladders and thus on to the hands. The men took their dinners in the mine. There was no evidence that the disease was conveyed by water. Ova were found even in the feces of apparently healthy men. There seemed to be little doubt that the disease had been introduced from abroad, for many of these miners had worked in foreign mines.

W. H. B. **Brook**, of Lincoln, at the Clinical Society of London, Nov. 14, 1902, made a communication on the clinical features of an epidemic disease which had occurred in Lincoln during May, 1902. Upwards of 75 cases of the disease had arisen in his practice and that of other medical men of the town in the course of seven days in the early part of May. The chief characteristics of the disease were as follows: It generally started suddenly with erythema of the face, accompanied by sore throat, and with edema of the fauces and uvula, the tonsils in many cases being covered with a drab-colored fur. A roseolous papular eruption in most of the cases was met with on the second day, lasting from a few hours to one week, and showing a tendency to recur in some cases as late as the tenth week. In some cases it was of an urticarial character. During the fading of the eruption, desquamation occurred in one-third of the cases. The temperature was never high unless complications were present. It ranged from 99° to 102° F., faling on the appearance of the eruption. The pulse-rate was not increased in proportion to the fever. Albumin was never present in the urine excepting in two instances in which, at the end of the month there was a transient attack of hematuria. The 75 cases referred to occurred in the practice of Dr. Brook and that of his partners, Mr. Charles Brook and Dr. A. Stanley Green, and in no case did the infection appear to be communicated to others. Nearly all the patients were adults; several were well advanced in years. The complication most commonly met with was swelling and tenderness of the cervical glands, generally about the fourth day; this was accompanied by a return of the fever, which in some cases became very high, and could only be reduced by the administration of anti-streptococcic serum. This inflammation of the cervical glands occurred in some patients who had apparently quite recovered, and in them appeared to be dependent upon a too early return to the meat diet which also had a tendency to cause gastritis and even peritonitis. Stiffness of the muscles and joints was met with in many instances; in one, an adult, this occurred at the end of a fortnight, and was so marked as to resemble acute rheumatism, the stiffness of the joints persisting for several months. Septic phlebitis occurred in one patient, aged sixty-six years, who died on the twentieth day with symptoms of pyemia, death being ushered in with hemiplegia, coma and convulsions. With one doubtful exception, all these patients had had milk from the same dairy—a circumstance which was suggestive of the infection having been conveyed by milk. The epidemic was investigated by Dr. Klein, who isolated a special micro-organism from swabs taken from the throats of several of the patients. The treatment that gave the best results was rest in bed, with a milk diet; calomel followed by a saline purge when the patient was first seen, and a simple saline mixture with salicylate of sodium, followed during convalescence by the administration of quinine. Great relief was afforded by the administration of nitrate of silver to the fauces and the frequent use of a gargle containing carbolic acid and borax.

Dr. Malcolm A. Morris, at a meeting of the Dermatological Society of London, Nov. 12, 1902, showed a middle-aged man who had been vaccinated in April, 1902, and had been affected with a generalized eruption three weeks afterward. This eruption was undoubtedly psoriasis and there was a doubtful history of a single spot upon one arm before the vaccination. Quite lately another eruption had made its appearance, taking the form of a long line extending from below the internal malleolus, where it had begun, up the inner side of the leg to the knee, then following the line of the sartorius muscle to the outer side of the thigh and finally winding around so as to terminate on the buttock. The line thus formed was made up of groups of small, flat-topped angular papules, quite characteristic of lichen planus, though there was more scaling present than is usually seen in this disease. The diagnosis offered was a combination of psoriasis with linear lichen planus, and with this all the members present agreed.

A. H. G. Doran, at a meeting of the West London Medico-Chirurgical Society, held Nov. 7, 1902, read a paper on choledochotomy in a case of chronic jaundice with cholangitis, with recovery. The patient, a female, had suffered as a child from four or five attacks of jaundice. When thirty-three years old she had a violent attack of pain and for the first time passed gall-stones. For about two years she continued to pass about one stone a month, without any jaundice, but with considerable pain. On April 23, the patient, then aged thirty-six years, came under the author's care in the Sanatorium Hospital. She was jaundiced and the gall-bladder was enlarged and hard. The motions were quite pale, with a remarkable quantity of powdery matter which proved to be of vegetable structure. On May 1 an operation was performed. An incision was made, the gall-bladder was aspirated and an ounce of thick, greenish pus came away. The common duct was much dilated and just above the duodenal orifice a stone was found to be impacted. A vertical incision was made into the dilated duct and a rough spherical calculus, three-quarters of an inch in diameter, was removed. With the probe no other calculi could be found. The duct was sutured, a drainage tube was placed in the gall-bladder and pressed against the common duct, and the upper part of the abdominal wound was closed. On the third day after the operation two soft calculi came away. On the fifth day there were severe vomiting, a rise of temperature and a pulse rate of 140. On the sixth day much deep-yellow bile escaped from the wound and the vomiting ceased entirely. At the end of three weeks the patient was convalescent. Two months after the operation there was some suppuration and a piece of ligature came away. During September three pieces of calculus came away from the fistula, which was now only two and a quarter inches in length. Dr. Doran said that this case showed the value of choledochotomy, an operation first performed by Courvoisier 13 years ago. Choledochotomy was an ideal operation. A sandbag under the loins proved a great assistance in pushing the duct forward. A long incision should always be used. The gall-stones which came away after the operation were probably hidden in the gall-blader and the acute attack on the fifth day was a relapse of the cholangitis. The vomiting was extremely severe, but with no symptoms of septic peritonitis. A fistula connected with the common duct, which, fortunately, did not occur in this case, was much more serious than one into the gall-bladder. There ought, however, to be no difficulty in suturing, when the patient is placed in the proper position. Mr. Doran asked for opinions on the value of calcium chloride for increasing coagulability of the blood. He thought the passage of quantities of sand-like powder of some interest. He called attention to the fact that pregnancy favored cholelithiasis.

W. B. Warrington, at the Liverpool Medical Institution, Nov. 13, 1902, exhibited a paper on the Pathology of Sleeping Sickness. He demonstrated the lesions by the aid of lantern slides. These showed that the stress of the disease fell on the lymphatic system and particularly the lymphatics of the central nervous system; the perivascular lymphatics here were found to be invaded by lymphocytes, the nerve cells being, for the most part, normal, only a few exhibiting chromatolysis. His observations agreed with those of Dr. F. W. Mott. They supported the toxin view of the disease, the actual nature of which, was, however, undiscovered.

Dr. Glynn read a note on Postmortem Warts. He had had the oportunity of making some personal observations on the subject, having contracted the affection on one of his fingers. He had made sections of the growths and also used portions for inoculation into guinea-pigs; both series of observations demonstrated the tuberculous nature of the warts. In connection with the warts he commented on the three forms exhibited by tuberculous lesions of the skin. He looked upon the development of such warty growths as characteristic of a high degree of resistance to invasion.

At the Birkenhead Medical Society, Nov. 14, J. K. Blood read a paper on Ectopic Gestation, in which he detailed the symptoms usually met with in such cases and discussed the diagnosis. He referred to a case which had recently occurred in his practice. The patient was three months pregnant, and while walking one day in the garden was seized with sudden abdominal pain. When seen by him one hour later she was greatly collapsed. She was bleeding from the uterus with passage of decidual membrane. A diagnosis of tubal rupture was made. A laparotomy was performed the following day and the tube was removed. He thought that ectopic gestation was a commoner condition than was generally believed and that most, if not all, of the cases of hematocele were cases in which an early rupture of the tube had occurred. In his opinion laparotomy with removal of the parts concerned was the proper and only treatment of these formidable cases.

W. Tyrrell, at the Society of Anesthetics, Nov. 7, 1902, read a paper reporting a case of death immediately following the administration of nitrous oxide gas. The patient was slow in recovering from the gas and strong ammonia was therefore held to his nostrils. The postmortem examination showed a congestion of the mucous membranes of the air passages. The author had received the report from outside sources and was not able to speak with authority concerning it, but since it contained the suggestion that the ammonia and not the anesthetic had caused death, he thought it worth while to mention it to the society.

CHOREA NOT A RARE DISEASE AMONG INDIANS.

To the Editor of the Medical News:

Dear Sir: In my sanitary reports for the three-quarters ending March 31, June 30, and Sept. 30, inclusive, I have had to include 10 cases of genuine Sydenham's chorea, occurring among the Indian children attending the Government Industrial School at this place.

Two of the cases were full-blood Sioux girls. One other was a full-blood also, but belonging to a different tribe, probably Cree.

The rest of the cases were in girls classed as Indians, but having some white blood, one being a half-breed Sioux, while the others were three-quarter and one-half blood Chippewas and Crees.

All of the cases were curable, and under proper treatment subsided generally in from one to three months; so far there has not been a relapse in any case.

Rheumatism did not seem to stand in a causal relation, as it was associated with only one case, and in that, after the subsidence of all acute choreic symptoms.

In one there was a suspicion of masturbation, but in all other cases both the above conditions must be excluded.

Having carefully studied each case as it came up in almost regular routine, I am inclined to concur in the opinion of many writers who class chorea as an infectious disease.

R. E. Riggs, M.D.,
Physician U. S. I. S.

MIDSHIPMAN AIKIN AND VIVISECTION.

To the Editor of the Medical News:

Hon. Jacob H. Gallinger, Chairman of the Senate Committee on the District of Columbia, Washington, D. C.

My Dear Sir: As you have repeatedly introduced bills into the Senate for the purpose nominally of regulating experiments upon animals in the District of Columbia, which bills, however, if they had become laws, would, in fact have prohibited many, if not all of them, I deem it my duty to call your attention to the case of Midshipman Aikin of the United States Naval Academy, who was recently injured in a football game. My reason for doing so is to show you by a single concrete example that knowledge gained by animal experimentation is an immense boon to humanity and that, therefore, such experiments should be heartily encouraged.

The facts of Mr. Aikin's case are as follows: When I first saw him three days after the accident, I found that he had been unconscious for a half hour after the accident and ever since then had complained bitterly of headache, which he located always in the forehead. Mentally he was very dull, though not comatose. His pulse was slowed down to 52 instead of being 72, the normal. Soon after the accident he began to develop convulsions, first in the right leg, afterward in the right arm also, the right arm being finally the chief seat of the convulsions. When they were very severe they involved the left side also. The face was never involved. In 6½ hours after I first saw him he had 24 of these attacks, all limited to the right arm. They were not attended by any loss of consciousness. They exhausted him very greatly, especially when they were excessively severe. Several times it was necessary to give him chloroform.

There was no fracture of the skull. The only physical evidence of any injury was a very slight bruise at the outer end of the left eyebrow.

Had I seen this case before 1885, I would have been unable to explain why the spasms were chiefly manifested in the right arm, and from the evidence of the slow pulse, the headache, the stupor, the bruise in the left temple, etc., I would have been justified in inferring that probably the front part of the brain was injured at the site of the bruise. Had I opened his skull at that point, I would have found a perfectly normal brain and have missed the clot. The young man, therefore, would have died whether his skull had been opened or not.

In 1902, observe the difference. As a result of the knowledge derived from experiments upon animals which have located precisely the center for motion of the right arm on the left side of the brain near the top and a little in front of a vertical line drawn through the ear, and disregarding entirely the site of the headache and the bruise, I reached the conclusion that there had been a rupture of a blood vessel within the head, which had poured out a quantity of blood, and that the situation of the clot should correspond to the "arm center." The location of this arm center was far away (about three inches) from the location of the bruise, and its position was fixed absolutely as a result of experiments upon animals, confirmed later by many operations on human beings and also by postmortems.

As soon as the skull was opened at this point the clot was found, its thickest point being exactly over the arm center and nine tablespoonfuls of blood were removed, with the result that the patient's life has been spared. The blood had first been poured out over the "leg center," which is located a little higher up than that for the arm. This explained the early spasms in the right leg. The clot did not extend, however, further down than the arm center. This explained why the face was never convulsed, for the "face center" lies just below that for the arm.

I think if you were to ask the parents of this young man how many animals they would be willing to have sacrificed in order that their son might have his life saved, there would be no doubt of the answer. Indeed, had it been your own son, I cannot doubt the answer. But this is only one of hundreds of cases in which a similar exact localization has been made by many surgeons, both in Europe and America. Yet by a curious coincidence in the very same issue of a Baltimore newspaper containing a reporter's account of the successful operation on Midshipman Aikin, there is a letter signed by an active anti-vivisectionist agitator, which, among other misstatements and misrepresentations usually found in such publications, asserts that "brain surgery is disregarded."

If the laws which you and your friends advocate were in force, the conditions for scientific investigation in medicine in this country would be quite as deplorable as those in England. For example, when Lord Lister, who has revolutionized modern surgery, largely as a result of such experiments, wished to discover possibly some still better way of operating by further experiments, he was obliged to go to Toulouse to carry them out, as the vexatious restrictions of the law in England practically made it impossible for him to continue there these preeminently humane experiments.

Again, when Sir T. Lauder Brunton in London started a series of experiments on animals to discover an antidote for the cobra and other snake poisons of India, where every year 20,000 human lives are sacrificed by snake bites, these beneficent researches were stopped by the stringent British laws to protect animals. Meanwhile half a million of human beings have hopelessly perished.

Who, I may ask, is the more humane; he who doubtless with the best and sincerest motives of love for dumb beasts would prohibit experiments upon animals and thereby prevent the acquisition of such knowledge and so compel surgeons to stand with folded arms and see innumerable lives thus needlessly sacrificed or he who by properly instituted experiments would discover such new truths and apply them to the service of humanity?

The anti-vivisectionists have frequently denied that surgeons have learned anything from such experiments. I presume that I may be considered a competent witness as to the source at least of my own knowledge, and I state with the greatest positiveness that without the knowledge derived from experiments upon animals, which have demonstrated the facts of cerebral localization, I should never have been able to locate the clot in Mr. Aikin's head and to remove it, nor would I have been able in the last 15 years to locate numerous tumors and other brain troubles and relieve many of them. What is true of myself is equally true of other surgeons.

In view, therefore, of the evident and positive benefit of such experiments, I trust that you will be willing to desist from further efforts at such repressive and, as I regard it, most inhumane and cruel legislation.

As this matter is of vital importance to the well-being of the entire community, I shall take the liberty of giving this letter to the press as soon as you have received it.

W. W. KEEN,
Professor of Surgery, Jefferson Medical College.
December 5, 1902.

SOCIETY PROCEEDINGS.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Regular Monthly Meeting, held on Tuesday Evening, October 7, 1902.

The President, Dr. Wendell Reber, in the Chair.

Post-Diphtheritic Paralysis Affecting the Nose and Throat.—Dr. Carle Lee Felt read a paper entitled as above, in which he divided the causal factors of this condition into three groups: the bacilli, the toxin, and a by-product, the action of which is limited to the nerve tissue, called "toxone," the latter agent being accredited by Dr. Dundas Grant with being responsible for the paralyses following the mild diphtheritic cases treated with antitoxin. The condition per se may also be considered under three headings, *i.e.*, (1) Muscle degeneration; (2) localized neuritis and degeneration; (3) central nervous destruction and degeneration.

The full details of this paper will be found in a subsequent issue of the MEDICAL NEWS.

Post-Diphtheritic Paralysis Affecting the General Nervous System.—This paper was read by Dr. Luther C. Peter, in which he stated that the frequency of the palsies is in direct proportion to the severity of the general infection, notwithstanding that occasionally a severe paralysis may follow a mild diphtheria. The most important etiological factors are age and the location of the membrane, Gowers claiming that the largest per cent. of cases occur in adults, while the experience of other observers tend to a contrary opinion, the latter holding that most of the cases occur between the ages of five and six years. From the observations by Myers, it would appear that about one-fifth of the cases are followed by paralysis. That the paralysis may involve almost any portion of the body, particularly the nerves, spinal cord and brain; and muscles, especially the myocardium, is now pretty generally recognized, as is also the fact that the condition is caused by a toxin elaborated in the body by a diphtheric bacilli, the blood stream acting as a conveyance for the toxic agent. The localization of the paralysis can no doubt be explained by the proximity of the affected organ to the source of infection. The full paper will be found in a subsequent issue of the MEDICAL NEWS.

Post-Diphtheritic Ocular Paralysis.—Dr. P. N. K. Schwenk read a paper on this subject in which he stated that the post-latent stage of diphtheria is almost invariably characterized by paralysis of the ocular, some writers indeed consider this condition rather as a part of the disease than a sequel thereto. As a rule the paralysis first appears in the fauces, affecting deglutition, and then successively involving the muscles of accommodation and those of the extremities. But few muscles are usually affected at the same time, the ciliary muscles being the most common focus and the sphincter muscles the most rarely affected. This condition was first noticed by Donders during an epidemic of diphtheria in France in 1860, in which he reported upwards of 30 cases, although Faure in 1857 had noticed six cases of paralysis of the palate and weakness of sight, and two of strabismus. Brettonneau, Nousseau and Blanche attributed the condition to disturbance of the retinal function, while Donders supposed it to have been due to a hemorrhage in the region of the oculomotor nerve centers, as this would offer an explanation for the "dulness in the head," slight vertigo and headache frequently coexisting. Post-diphtheritic ocular paralysis is usually bilateral, although a few cases of the unilateral condition are reported, and paralysis of the sphincter irides is a rare accompaniment. The total hypermetropia following this condition is in excess of that following any cyclopegiæ, which is accounted for by Jefferson by the fact that the lens assumed a flatter curvature in prolonged paralysis of the ciliary muscles than that induced by a shorter cyclopegiæ. These attacks are usually observed in from two to six weeks after the attack of diphtheria, and require about the same length of time for a cure, the prognosis being more favorable in the young than in the older patient. There is an inability to distinguish near objects and double vision may or may not be present. The severity of the primary disease bears no relation to the ocular paralysis, and in the author's opinion the condition is produced by the action of the toxins on the peripheral nerve centers. The full paper will be found in a subsequent issue of the MEDICAL NEWS.

Dr. Charles W. Burr, in opening the discussion on these papers, stated that he believed the chief causative factor in these cases of diphtheritic paralysis was multiple neurosis, his contention being supported by postmortem observations in eight or 10 cases, in none of which was there any disease of the brain or cord, but marked degeneration of the peripheral nerves was present in all, which latter condition is reported to be present by all who have studied the pathology of diphtheria. Very rarely myelitis hemorrhagica or some degeneration of the ganglion cells in the anterior horn is discovered, but these conditions are just as frequently found after death from other causes than palsies. Occasionally convulsions followed by hemiplegia, or hemiplegia, without convulsion may be observed, and necropsy may show hemorrhage, but more frequently there is thrombosis of the cerebral artery. This condition, however, is rather a secondary infection than a diphtheritic palsy, as so far as is known neither the diphtheria bacillus nor any of the poisons produced thereby will produce cerebral thrombosis, while streptococcic infection is a frequent cause of the condition. Regarding prognosis the most important factor to determine is whether it is a multiple neuritis or a cerebral affection, in the former case the prognosis being very good, while in the latter it is very poor. The diagnosis is usually very easy, the muscles of accommodation and the palpebral muscles usually being first affected. The most important feature in the treatment ot diphtheritis paralysis was thought to be absolute rest, while strychnine, and when chlorosis is present, iron were thought to be important adjuncts. The use of antitoxin in diphtheria was commended, although its value in the prevention of paralysis was felt to be an open question for the reason that the men who treat the paralyses rarely see the disease in its primary stages.

Dr. R. W. Bemis stated that he did not believe antitoxin should be used to the exclusion of everything else, as he felt that muscle changes take place as soon as the local manifestations are visible, thus the antitoxin cannot be given early enough to secure the effect which is produced in the experiments on guinea pigs, in which the diphtheritic toxine is injected and immediately followed by an injection of antitoxin. While he believed that antitoxin was an important factor in the cure of the diphtheria itself, he felt that it had but little effect on the paralysis. Iron, digitalis, strychnine and other heart stimulants were thought to be indicated. A case was reported of a girl about six years of age, who was suffering from such severe paralysis that she could not hold a two-ounce medicine glass in her hand, who was given one-twenty-fifth of a grain of strychnine every four hours for from three to five days, and made a rapid recovery. Local applications of peroxide to prevent the spread of the exudate were recommended, and the severity of the case was thought to be indicated by the amount of the exudate present. The hemorrhagic cases are particularly fatal and treatment is usually of but little avail.

Dr. Wm. Egbert Robertson felt that the reason the antitoxin treatment was not more uniformly successful was because the diagnosis and administration of this remedy was not made sufficiently early, and recommended the making of cultures in all suspected cases. The secondary effect of these parenchymatous changes, of course, it is impossible for the antitoxin to overcome, and where you have a multiple infection, this remedy is not sufficient, but it is rarely that sore throat due solely to streptococci, pneumococci, staphylococci or similar organisms proves fatal. Considering the fact that all the changes are due primarily to the toxin, it would naturally follow that the prevention of the action of this substance would prevent paralysis, which would seem to indicate that paralysis would be less likely to follow if the antitoxin had been used in the early stages.

Dr. Godfrey referred to a number of cases which had recently been under observation in Smith College, in which antitoxin was injected early, and if there was not a favorable response within a short time, double the quantity of the original dose was given, in one case 20,000 units being administered within the first 30 hours. All of the cases recovered without palsy and there was no hemorrhage except nasal hemorrhage and albuminuria.

Dr. Wendell Reber reported the case of a young man, nineteen years of age, who had been treated early in the disease with large injections of antitoxin. He was confined to bed for two or three weeks, at the end of which time he developed post-diphtheritic paralysis of the arms and legs. There was considerable laryngeal infection and marked divergent squint, but no involvement of the externi muscle. The pupils and the muscles of accommodation were also affected. After three or four months' rest in bed, in conjunction with the use of strychnine, he made a good recovery, although the divergent squint still persisted. A tenotome was introduced into the external recti, but there is still some paralysis with marked internal squint. The fact was referred to that seldom are the muscles within the eye and the externi affected, which was accounted for by the blood being supplied by different vessels.

Dr. Schwenk, in closing, stated that he had not seen a case of post-diphtheric paralysis of accommodation for several years, which he felt was probably due to the use of antitoxin.

Dr. Felt, in closing, felt that the large proportion of the cases of nasal diphtheria which were followed by paralysis was due to the fact that many of the cases of this condition were not recognized as such, and also because the structures are more absorptive than those of the tonsils. He believed that the early use of antitoxin had a marked effect in preventing paralysis, but felt that it was of but little value if not used by the third day of the disease, either as a preservative of life or a preventive of paralysis.

Dr. Peter, in closing, referred to the conflicting opinions regarding whether the paralysis originated in the peripheral nerves or in the cord, and stated that changes similar to those found in the peripheral nerves, such as parenchymatous degeneration of the nerve fibers, have been observed in the cord.

In regard to the treatment, he felt that antitoxin offered the only rational method of treating diphtheria and the consequent paralysis, and since this latter condition is caused by the reaction of the micro-organisms on the tissues, if the poisons are early eliminated, these paralyses can be prevented.

SOCIETY OF DERMATOLOGY AND GENITO-URINARY SURGERY.

Stated Meeting, held November 14, 1902.

The President, Dr. H. Goldenberg, in the Chair.

A Case of Fibromata.—Dr. W. B. Brown presented this case, which was interesting on account of the large number of lesions and, particularly, the new lesions which had made their appearance within the past few months. Over the trunk were to be found hundreds of minor tumors.

Dr. G. K. Swinburne asked what the lesions contained; were they not cystic? Dr. Brown answered that he had not removed them for examination. The Chairman said they were dry and when squeezed nothing came therefrom. Dr. E. L. Cocks thought that it was rather an atypical case and asked that the thyroid extract be given a trial. The Chairman asked if any of the gentlemen present had ever tried thyroid extract in such cases. Dr. B. Lapowski had had two cases in which the thyroid extract had been used with some effect. In cases of large fibromata, after four or five weeks of the administration of thyroid extract, some would suddenly get small and not increase in size and, at the same time, other fibromata would increase. Dr. Brown asked regarding the origin of the disease, whether it was infectious or not. Dr. B. Lapowski said that it was at times called neuro-fibromata. It was not an inflammatory process but due to a toxic element which acted upon the nerve centers or ganglia and produced a neuritis. The Chairman said that neuro-fibromata must originate from the sheath of the nerve. Some had explained the condition as one of fibromatous diathesis, or fibromatosis which, to his mind, did not explain anything.

A Case for Diagnosis.—Dr. John Cabot presented the case of a man who, for five years, had complained of very sensitive points, particularly on the shins where there were quite pronounced areas very sensitive to the touch; below these points there were little nodes which apparently were not connected with the bones; they were directly under the skin, like a small abscess formation. Upon pressure they would disappear and then return. The condition had existed off and on during the past five years. He is an Irishman, married, and has a family of children. He gave no syphilitic history. These sensitive areas had improved under the administration of iodide of potassium and the mixed treatment. On the wrist there was noted a mass which bulged up and, when pressed upon, made him wince.

Dr. Brown thought that possibly a gumma might be present. He did not find any exostosis. Dr. H. H. Morton thought it was a syphilitic case. Dr. B. Lapowski said that the scars found on the body were decidedly syphilitic and he believed the man had had syphilis. But whether that neurotic element was due to syphilis was a question he could not answer. The masses beneath the skin did not feel like gummata. In cases of neuromata the pain was alongside the nerve but, in this case, the pain was not alongside any nerve. Because he improved under the mixed treatment he believed that it should be forced, either by injections or inunctions. Dr. T. G. Lusk did not think that the scars on the legs were characteristic of syphilis. The man gave a history of having had ulcers there following an injury which accounted for the scars. There was no multiple collection of scars which pointed to a previous syphilis. Certain indurated areas found in gout, not always the result of high living, colchicum had caused to disappear. Without further evidences of syphilis he would advocate the administration of this drug and benzoate of lithium. He did not know what the lesion upon the wrist was, but thought possibly it might be syphilitic. He would also try inunctions of mercury combined with iodide of potassium in increasing doses. Dr. W. K. Otis believed that the case was one of syphilis and advocated the running up of the iodides as high as the patient could stand them. Dr. Swinburne also believed it to be syphilis. The Chairman was inclined to look upon it as syphilitic, although he agreed with Dr. Lusk that there was nothing characteristic about it. He did not believe in diagnosing syphilis from scars because he had seen scars the result of traumatism look like syphilitic scars. If the Doctor had not stated that the lesions disappeared he would be inclined to consider them tumors, neuromata or neuro-fibromata and, therefore, he would excise a small portion and examine it. Another diagnosis that might be made was rheumatic or gouty deposits in the muscles, *i.e.*, a myositis due to gout or rheumatism, a condition that he had seen in the neck. He did not think there could be made a diagnosis of erythema nodosum for there was no erythema present; the color of the skin was the same as the surrounding tissues. He thought it perfectly feasible to excise a small portion of one of the tumors, as on the leg, and have it examined microscopically. Dr. Cabot said the patient had been under the observation of competent men at the Presbyterian Hospital for the past five years. Rheumatic and gouty treatment had been given without any effect but the administration of mercury and iodide of potassium would clear it up. He would go away and be apparently well, but later he would return with the trouble which again would disappear under the same treatment. This had happened six or eight times. This seemed to undoubtedly establish the diagnosis of syphilis. Dr. Norton, a very competent and careful observer, had said that the syphilitic treatment was effective and the anti-rheumatic treatment had no effect. The Doctor said that he brought the patient before the Society on account of the interest attached to his giving no syphilitic history and the local manifestations were not typical of syphilis. The Chairman thought that the case might be a gouty one and iodide of potassium, being an anti-gout treatment, had caused its disappearance. Dr. B. Lapowski said that the microscopical examination would not reveal anything if the case was one of syphilis. The Chairman said it was rare to have such tumors so sensitive to the touch. Dr. Lusk asked that all other treatment be stopped and the patient be given 10 minim doses of the wine of colchicum and 10 grains of the benzoate of lithium, regulate his diet, cut off tea and coffee for two or three months and watch the behavior of the disease. The Chairman said that if rheumatic no effect would be obtained with this treatment unless it was combined with massage, massaging with the oil of gaultheria.

A Case for Diagnosis.—Dr. E. L. Cooks presented the daughter of a man who was brought before the Society by him some time ago with Addison's disease. In this case there was pigmentation of the forehead and face but the body was absolutely clear. She had been treated for syphilis and arsenic, as high as 15 drops of Fowler's solution three times a day, had been given for three months. It did not seem to him that the daughter inherited this from the father. The condition had improved greatly under the administration of suprarenal extract. The marked respiratory and other symptoms had disappeared, and the pigmentation had cleared up at least two-thirds. She was much concerned about the condition of the skin and was very much afraid that she might have the same condition as her father. He asked the Society for a diagnosis. Because the mixed treatment did not clear it up she was placed upon arsenic. This has been on her forehead since one year ago last summer and she states that she has been taking arsenic for six years. She has had one child, a seven months' child. She had never been pregnant before.

Dr. Cabot remembered the father well and, in connection with this, thought it made a very interesting series of cases. Dr. Lusk thought the condition started as a sunburn and pigmentation commenced with the giving of arsenic and the uterine derangement during child-bearing period. He did not think it had any connection with syphilis or anything else. Dr. Brown thought that it was a case of ordinary chloasma due to pregnancy. The Chairman remembered well the case of the father, presented by Dr. Cocks, and he was one of those who thought, at the time, that the pigmentation was due to arsenic which, in this case, he would exclude. He did not ever remember seeing a case of pigmentation following the taking of arsenic confined to the face. He thought the pigmentation was due to uterine disturbances. Dr. Lapowski said that if it was uterine chloasma it would in time disappear although sometimes it increased. He believed that it should be left alone. Dr. Lusk said that he had obtained good results in uterine chloasma from the application of a eight- to ten-per-cent. solution of salicylic acid in alcohol until a decided pealing has occurred and then same emollient should be applied, such as cold cream. Dr. Brown said he could speak in favor of that treatment. Dr. Lapowski asked what they meant by saying they could remove chloasma by the use of salicylic acid; chloasma was so deeply situated that this drug could not remove it. Dr. Brown said that its application had produced a marked improvement, making it much paler. Relapses might occur. He had removed it in this way and has observed that it often remained away for months. The Chairman had had the same experience with salicylic acid as had Dr. Brown although he had not used with it alcohol but a $^{1}/_{200}$ solution of bichloride of mercury. He had never before seen a chloasma localized upon the forehead. Dr. Cocks said that in the winter the eruption went away but in the summer it returned. He would try the treatment advocated.

A Case for Diagnosis.—Dr. B. Lapowski presented Mrs. X., sixty years of age. She was born in Germany.

In her seventeenth year she suffered from an acute attack of rheumatism. A year later a scaly eruption appeared on her body; the local physician called it "Flechte." The knees, elbows, face and scalp were mostly affected; the body was involved to a lesser degree. After several months it disappeared under local treatment leaving here and there small scaly papules, which were always present in various locations since the first outbreak. When twenty-six years old she married. She has never been pregnant. Thirteen years ago the scalp, ear, face and body were affected with an eruption which the patient said looked like the former disease. The elbow and knees were at that time only slightly affected. Nine years ago he saw the patient and then diagnosed the disease as psoriasis. Eighteen months ago the patient came to him with her present eruption which at that time occupied the external regions of both buttocks, the left one being affected to a larger degree, and extensor surfaces of both forearms. At present the eruption is localized on the same places, occupying larger areas, palm-sized patches on the buttocks and longitudinal patches on the forearms. Below the knees and around the wrists one can see freshly developed papules. These were of pea-size with a red border with several white scales in the center. The papule looks like a drop of cement on the skin, surrounded by a red halo. The large patches on the buttocks consisted of an agglomeration of such papules in one patch; the individual papules cannot be seen any more. The patch consisted of white, cigarette-paper-like scales which cannot be easily removed from the skin. On forcible removal a white thin scale is removed, leaving a slightly reddened surface, smooth and dry. Some of the scales were surrounded by a red border, painful to the touch and, on such places, the scales are more adherent, of a dark-brownish color. The whole patch was slightly raised above the surface, the scales had free borders but are firmly adherent in the center. Few red scaly psoriatic papules may be seen on the upper extremities. The patient had suffered during the past few months with severe pains in the lower extremities and locally when touched. There is neither anesthesia nor hyperesthesia of the skin. The urine was free from albumin and sugar, but contains a large amount of uric acid and vaginal cells.

Dr. Lusk did not know what it was. Dr. Cocks thought it was a case of lupus erythematosus. He had no doubt but that it was a case of psoriasis when Dr. Lapowski saw her; it seemed to him that the scars were typical. Although the doctor had stated that, when the scales were removed there were no ulcerations found, still he thought the same condition might be in lupus erythematosus.

Dr. Brown agreed with Dr. Lusk as also did the Chairman. Dr. Lapowski did not agree with these gentlemen; he could not regard it as lupus erythematosus; in the later condition the scales looked different with their glandular prolongations. The atrophic places of lupus erythematosus were usually lower than the surface of the skin, while in this instance they were raised and rather painful. He was inclined to regard it as a case belonging to the class of dermatitis atrophicus (Pellizzali).

Printed Instructions to Those Suffering from Syphilis, Gonorrhea or "Clap."—Dr. John Cabot said that after an experience of some years in dispensary work he had come to the conclusion that such patients were not properly instructed in certain diseases; that they did not understand how to protect themselves and others when they were the subjects of syphilis or gonorrhea particularly. Four years ago he read a paper on this subject and since then he had had prepared for use in the Presbyterian Hospital Dispensary printed directions for such patients. This gives them an idea of the diseases and helps in gaining control over them.

The Chairman thought that this was rather a timely idea. In Berlin it had been in use for a long time.

Enlarged Prostate: Prostatectomy.—Dr. Henry H. Morton, of Brooklyn, gave the history of Francis B., aged seventy-four years, an engineer by occupation, who had always been well and strong except for an attack of dysentery when nineteen years old. He had an inguinal hernia for 15 years. He had gonorrhea 50 years ago. He never had a stricture. One year ago he began to have difficulty in passing water, which grew steadily worse. Two days ago he had complete retention of urine which was unrelieved until the catheter was passed and 64 ounces of urine withdrawn, some being left in the bladder. Examination per rectum showed a large soft prostate as big as a lemon.

On Oct. 20, 1902, prostatectomy was performed according to the method of Bryson, of St. Louis. There was some tenderness for three or four days after the operation, but little temperature, and a good pulse. The bladder was drained with a tube for one week. The urine contained a good deal of blood. On Nov. 5 the patient was up and walking about the yard. On Nov. 10 he could hold his water for three hours at a time. On this date the perineal wound was still open. The patient was not a stout man.

BOOK REVIEWS.

The Diseases of Infancy and Childhood. Designed for the Use of Students and Practitioners of Medicine. By Henry Koplik, M.D., Attending Physician to the Mount Sinai Hospital; formerly Attending Physician to the Good Samaritan Dispensary, New York; Ex-President of the American Pediatric Society; member of the Association of American Physicians and of the New York Academy of Medicine. Lea Brothers & Co., New York and Philadelphia.

The study of the child is one that has received remarkable impetus during the past decade or so. Pedagogy, child psychology and even child criminology have all been made subjects of serious research and a realization of the value of such work to humanity is rapidly becoming general. Pediatrics has shared in the wave of progress and recent years have been unusually fruitful in their additions to this department of medicine. The literature of the subject has flourished accordingly and there has been need of a new book to unify the disseminated contributions which have emanated from the *Kulturvölker* in general and which therefore have been accessible only in their original languages.

It has been the object of the author of the present volume to meet just this demand and he has provided what is practically a digest of the best writings of American, English, German, French and Italian pediatric science. The index of authors cited comprises the most prominent pediatrists of all countries and ample bibliographies appended to each section refer to the originals of the papers quoted. Considered from this standpoint alone, therefore, the book merits the gratitude of all who ever have occasion to use such material, but this is but the least important aspect of the work. The author's personal views and the results of his own wide experience are given *in extenso* throughout, and the opinions of others are critically considered with unfailing good sense.

Infant feeding receives a thoughtful chapter in which various systems of modification are described and in addition to the usual arguments in favor of nursing rather than artificial feeding attention is called to the probable antitoxic and protective bodies contained in mother's milk. The question of the possibility of the voluntary modification of mother's milk by diet, etc., is considered still *sub judice.* Menstruation is said to have no appreciable effect and nursing may be allowed up to the third month of pregnancy, though both the milk and the baby should be kept under observation. A statement that will no doubt find opponents is that the natural secretions will keep the mouth of the breast-fed child clean and that it should not be washed until the eruption of the teeth has begun. The value of gastric lavage and of Kemp's irrigations is emphasized by the author. He differs from many clinicians in advocating the recumbent instead of the sitting posture for performing the former maneuver and in feeding older children by gavage he advises that the tube be passed through the mouth and not the nostril.

An important section is that devoted to the septic infection of the newborn. The facility with which infection can be introduced into the feebly resisting infant organism is explained by the lack of the adult body's phagocytic faculties and the vulnerability of the skin and mucous membranes, while the deficient reactive powers render treatment difficult and make painstaking prophylaxis of the utmost importance. The discussion of the exanthemata is excellent, though a book for students, and even for practitioners, might advantageously have a comparative table or two presenting periods of incubation, invasion, etc., and a few deadly parallels for assistance in differential diagnosis. The pathognomonic sign of measles, to which the author's name is attached, is clearly described and illustrated in color.

The fact that typhoid is commoner in infants than is usually believed is evidenced by the statistics of the author and others, and the value of the Widal reaction is shown to be especially great in children in whom there are so many other causes for splenic tumor, temperature, rash, etc. The Ehrlich reaction is considered confirmatory but not pathognomonic.

Other sections of especial interest are those on syphilis and diseases of the mouth, the latter of which contains several excellent illustrations of the true and false Hutchinson teeth. The chapter on appendicitis will be found very helpful and it is pointed out that McBurney's point is of less assistance in making a diagnosis in children than in adults. The importance of a rectal examination in all doubtful cases is also indicated.

The hematology of infancy and childhood is well portrayed and the fallacies likely to result from a too literal interpretation of blood counts in these patients noted. Lumbar puncture is given an especially full discussion and its diagnostic value rated highly while its therapeutic usefulness is held to be still unsettled.

Enough has been said to indicate in some measure the thoroughly modern character of the book and the soundness of all its teachings. The author has everywhere striven for a most commendable consciseness, which no doubt was necessary to keep the volume within the allotted bounds. At times, however, notably in the sections on treatment (*e.g.,* under the heading of Croup), one would wish that he had given a little more fully of his experience, but in most cases even this reproach has no bearing. The many full-page and other illustrations are well executed and the typographic work is of unusual excellence. Taken all in all the most prominent characteristic of the book is its practicability. Information bearing on all aspects of the subject is given, but in compact form, so as to be readily available for reference and application. It may truly be said of it that it "fills a long-felt want" and that "we wish for it the success it deserves."

CLINICAL PSYCHIATRY. A Text-Book for Students and Physicians. Abstracted and Adapted from the Sixth German Edition of Kraepelins "Lehrbuch der Psychiatrie." By A. ROSS DEFENDORF, M.D., Lecturer in Psychiatry in Yale University. The Macmillan Company, New York.

KRAEPELIN has occupied the front rank among European alienists so long and his text-book been a standard for so many teachers and students that it is a pleasure to welcome it in its present English dress, cut down and remodeled though it be.

For a text-book very wisely and understandingly abstracted, it now is to be found in a safe, authentic and understandable form for the many students of psychiatry in this country.

For the specialist the original is necessary, although many a psychiatrist in this country never would read it, and hence this present adaptation is the more doubly welcome.

Of the translator's share we have nothing but the warmest praise. A sympathy for all those engaged in the thankless task of making high science understandable to busy clinicians engenders the highest praise for the results of the task as here shown.

All interested in psychiatry will be benefited by the reading of this very well gotten up book and we cordially extend it the hand of fellowship.

THE PUBLIC AND THE DOCTOR. By a Regular Physician. Published by DR. B. E. HADRA, Dallas, Texas.

THIS little book contains in a short space a very succinct practical treatment of the relations of patients to their physician and of physicians to the general public. It is gotten up with the idea evidently that doctors should present it to some of the doubting Thomases whom they know to be especially liable to put faith in the charlatans and advertising specialists, rather than the regular practitioner. There is some excellent practical advice with regard to patent medicines and the various new schools, osteopathy, vitopathy, etc., besides an abundance of common sense as to family physicians, their selection and cognate subjects.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY. Edited by J. Mark Baldwin. Vol. II. 8vo, 892 pages. Illustrated. The Macmillan Company, New York.

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Dr. J. J. Reese. Sixth Edition. 8vo, 660 pages. P. Blakiston's Son & Co., Philadelphia.

THE AMERICAN TEXT-BOOK OF OBSTETRICS. Dr. R. C. Norris, Editor. Second Edition. 8vo, 2 vols., 600 pages. W. B. Saunders & Company, Philadelphia and London.

A TREATISE ON DISEASES OF THE EYE, NOSE, THROAT AND EAR. By Various Authors. Edited by Drs. W. C. Posey and Jonathan Wright. 8vo, 1,238 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

TRAITÉ DE MÉDECINE ET DE THERAPEUTIQUE. By Drs. P. Brouardel and A. Gilbert. Vol. X. Maladies des Nerfs Périphériques, Névroses, Maladies des Muscles, Par Drs. Pitres, Vaillard, Gilles de la Tourette, Gasne, Grasset, Rauzier, Triboulet, Lannois, Lamy, Sainton, Brissaud et Marinesco. 8vo, 872 pages. Illustrated. J. B. Baillière et Fils, Paris.

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SPECIAL ARTICLE.

THE SCIENTIFIC ASPECT OF MODERN MEDICINE.*

BY PROFESSOR FREDERIC S. LEE,
OF NEW YORK;
ASSOCIATE PROFESSOR OF PHYSIOLOGY, COLUMBIA UNIVERSITY.

THE origin and development of medical science are contemporaneous with the origin and development of mankind. So long as man has been, so long has been disease; and whenever man has suffered, man has tried to heal. The foundations of medicine lie deep in that soil of common knowledge from which arose all the sciences, and throughout its history it has freely absorbed the discoveries of them all. From the first it has been, and it must ever remain, their common meeting-place. In proportion as its spirit and its methods have been scientific it has progressed toward ultimate perfection. Yet, notwithstanding the importance of science to medicine, from first to last medicine has been permeated by the pernicious influence of empiricism. A wise man once said that all true science begins with empiricism, and medical science is a striking example of this fact. But it made an early effort to free itself. The most brilliant epoch of Grecian history is marked no more immortally by the wisdom of Socrates, the histories of Herodotus, the tragedies of Æschylus, and the art of Phidias, than by the medicine of Hippocrates and his followers, for this represents the first recorded endeavor—and a mighty endeavor it was—to break away from the empiricism of the earlier ages. But the science of the time was meagre, and, however laudable the aim, the Hippocratic writings are full of empirical notions. From that time on, down through the ages, we find science and empiricism, like the good and bad principles in all nature and all religions, ever contending. And the struggle still continues. As Richard Hooker wrote more than 300 years ago, so to-day do "Empirics learn physic by killing of the sick." The empiricism of to-day is not solely the method of osteopaths, Christian Scientists, and vendors of patent nostrums; it is found in the schools and the practice of legitimate medicine. At times it has surprising successes; but the struggle is an unequal one, and science is sure to be victorious. At no period of the world's history has the scientific idea in medicine been so aggressive and advanced so rapidly as during the past fifty years, and at no time has it seemed nearer its ultimate victory than at this beginning of the twentieth century. This advance is so striking and so full of general interest that I have ventured to choose it as my subject to-day, under the title of "The Scientific Aspect of Modern Medicine."

The Idea of a Vital Force.—One of the most essential prerequisites of this advance was the complete and final liberation of medical science, and of all those sciences now comprehended under the general title of biology, from a burden which in one form or another had hampered progress from the earliest times. I mean the conception that living bodies possess within themselves an active force or principle, differing in nature from anything possessed by non-living bodies, and which represents the vitality of living things. The beginnings of this idea are found in the various forms of animism of savage races, according to which a spirit or ghost inhabits the body and is responsible for its actions. In diseased states, this good spirit is dispossessed by an evil one. In one form or another this belief is met with among all civilized people. It is found in the days of Salem witchcraft, and even as late as 1788, in Bristol, England, when seven devils were exorcised from an epileptic. In physiology, from the times of the early Greek medicine until after the Renaissance, the animistic idea is represented by the doctrine of the *pneuma* or the "spirits." In Hippocratic times the spirits entered the body through the lungs, were carried by the blood to all parts, and enabled the vital actions to take place. At about 300 B.C. the Alexandrians found it convenient to make use of two forms of this mysterious agent, the "vital spirits" residing in the heart, and the "animal spirits" in the brain. To these, in the second century of the Christian era, Galen added a third, the "natural spirits," located in the liver.

All physicians of the present day are familiar with the remarkable story of Galen and his long reign in medicine. Born in the time of the emperor Hadrian, he lived an active life of medical research and practice. He was the imperial physician of Rome, and while the wise Marcus Aurelius was writing his "Meditations," Galen was producing his numerous medical books. These covered the whole field of the medicine of his time, much of which was the direct result of his own investigations. His activity was unparalleled, his knowledge immense, his logic and literary skill pronounced, and his system of medicine all embracing. In these respects he was far above his contemporaries, and with the decline of the Roman civilization, the consequent disappearance of originality of thought, and the long unbroken sleep of research, what wonder is it that his brilliance should shine unrivaled through the dark ages?

For more than a thousand years following the death of Galen, his authority in all things medical was supreme, and the doctrine of the *pneuma* was unchallenged. Only when there came the intellectual awakening of the Renaissance, did men ask themselves whether Galen's books or the human body more nearly represented the truth. But it was even long after this that the *pneuma* was deposed, and when it fell it was only to give place to the *archeus* of that arch-charlatan, Paracelsus, and to the *anima sensitiva* of the mystic philosopher, Van Helmont, and the melancholy pietist, Stahl. Through the latter part of the eighteenth and the early part of the nineteenth century, the vital principle was still in control of the physiologists; but, as they learned more of the conservation and the transformation of energy in inanimate things, and more of the working of living bodies, the gulf between the inanimate and the animate gradually narrowed, and the supremacy of the laws of chemistry and physics in all things living became clearly recognized. It is true that at times in these latter days, sporadic upshoots of a neo-vitalism raise their tiny heads, but these are to be ascribed to the innate aversion of the human mind to confess its ignorance of what it really does not know, and they do not receive serious attention from the more hopeful seekers after truth.

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* Address delivered before the School of Medicine at the Quarto-centennial celebration of the University of Colorado, November 14, 1902.

The elimination from scientific conceptions of the idea of vital force made possible a rational development of the science of physiology, and in this way led directly to the growth of a scientific medicine. In one of his luminous essays, Huxley has written: "A scorner of physic once said that nature and disease may be compared to two men fighting, the doctor to a blind man with a club, who strikes into the melée, sometimes hitting the disease and sometimes hitting nature." . . . The interloper "had better not meddle at all, until his eyes are opened—until he can see the exact position of his antagonists, and make sure of the effect of his blows. But that which it behooves the physician to see, not, indeed, with his bodily eye, but with clear intellectual vision, is a process, and the chain of causation involved in that process. Disease . . . is a perturbation of the normal activities of a living body, and it is, and must remain, unintelligible, so long as we are ignorant of the nature of these normal activities. In other words, there could be no real science of pathology until the science of physiology had reached a degree of perfection unattained, and indeed unattainable, until quite recent times."

No period has been so rich in physiological discoveries as the last 50 years of the nineteenth century. Research has developed along two main lines, the physical and the chemical, and to-day physiology is rightly regarded as the foundation stone of the science of diseases, and thus as the basis of scientific treatment.

The Cell Doctrine.—At the time when vital force was having its death struggle, the cell doctrine was being born. Inseparably linked with the idea of the cell is the idea of protoplasm—protoplasm the living substance, the cell the morphological unit. The heretofore mysterious living body is a complex mass of minute living particles, and the life of the individual is the composite life of those particles.

Within the past few weeks the world has bowed in mourning over the bier of an aged man, who, more than 40 years ago, in the strength of his vigorous manhood, gave to medical science in a well-rounded form the best of the cell doctrine of his time. Rudolf Virchow need have performed no other service than this to have secured worthy rank among the great men of medicine of the nineteenth century, for few books exercised a greater influence over medicine during that period than his "Cellular Pathology." From ancient times physicians had been divided into many camps regarding the causes of disease. One idea had been prominent for more than twenty centuries: The humoralists had maintained that pathological phenomena were due to the improper behaviour or admixture of the liquids of the body, which were, in the original form of this theory, the four humours: blood, phlegm, yellow bile and black bile. According to the solidists, on the other hand, the offending agents were not the liquids but the solids, and especially the nervous tissues. Both humoralists and solidists were excessively speculative, and the growing scientific spirit of the nineteenth century was becoming impatient of hypotheses that could not be experimentally proved. The times were ripe for new ideas. Virchow, soon after taking the Professor's chair at Berlin which he held from 1856 until his death, gave to an audience largely composed of medical practitioners, the lectures which, more than all else, have made him famous among his professional brethren. His main thesis was the cellular nature of all the structures and processes, whether normal or pathological, of all organized beings, and his dictum, "*omnis cellula e cellula*" —a cell arises only from an already existing cell, is the keynote of his theories. With his microscope he demonstrated the cells in all the tissues of the body, whether normal or pathological, and he proved the origin of the morbid cells in the normal ones. As to processes, he maintained rightly that all parts of the body are irritable, that every vital action is the result of a stimulus acting upon an irritable part, and he claimed a complete analogy between physiological and pathological processes. Every morbid structure and every morbid process has its normal prototype.

Virchow's ideas aroused enthusiasm the world over, and were eagerly studied and largely accepted by progressive men of medicine. Time and research have corrected errors of detail, but no one now denies the cellular nature and physiological basis of pathological phenomena. These facts are fundamental to the understanding and treatment of disease, which is now universally regarded as the behavior of the body cells under the influence of an injurious environment.

Virchow's ideas regarding pathological formations are a fitting complement to the laws of the conservation and transformation of energy. In the living world, as in the non-living, the law of continuity holds good. There are no cataclysms, there is no new creation. Structure and energy, whether normal or abnormal, proceed from preexisting structure and energy. Only such a conception can make possible a scientific medicine, and, since its promulgation, medical advance has been rapid.

The Rise of Bacteriology.—During the last half century, and largely during the past 25 years, that is, during the lifetime of this university, there has grown up a totally new science, comprising a vast literature and a vast subject matter, though dealing with the most minute of living things. This is the science of bacteriology. The achievements in this field have surpassed all others in their striking and revolutionary character, and bear both on the conception of the nature of a very large number of diseases, hitherto puzzling human understanding, and on their prevention and cure, hitherto baffling human skill. All other human deaths are few in number in comparison with those that have been caused by the infectious diseases. Occurring the world over, constantly with us, invading all homes, and keeping the death rate in cities perpetually high, at times they have swept, with the fury of a fiery volcanic blast, over large regions of the earth's surface, sparing few, and leaving in their train empty households and cities of death. Recent statistics have claimed that one of these diseases, tuberculosis, alone kills one-seventh of all the population of the world.

To what are these pestilential visitations due? Many have said, "To the anger of offended gods;" others, "To the displeasure of a divine Providence;" the early physicians, "To a wrong admixture of the humors;" the later pathologists, "To mysterious fermentations." But none of these answers has touched the vital point. This was reserved for a simple, modest and earnest student of science, of humble origin, the son of a French tanner, a man unhampered by medical tradition, seeking only the truth, and possessed of no genius except the genius of perseverance. To Louis Pasteur, more than to all others, should be given the honor of having solved the problem of the causation of these dread diseases. He laid the foundations of the new science, broad and deep, with surprisingly few errors of judgment.

It is instructive to look at the leading features of Pasteur's life work. From the beginning of his career, Pasteur was the defender of pure science, yet his work demonstrates well the ultimate practical value of what seems at first purely scientific. At the age of thirty-one he became a professor and dean of the Faculty of Sciences at Lille, and in his opening address he said to his students: "You are not to share the opinions of those narrow minds who disdain everything in science that has not an immediate application." And then he quoted that charming story of Benjamin Franklin, who when witnessing a demonstration of a scientific discovery, was asked: "But what is the *use* of it?" Franklin replied: "What is the use of a new-born child?"

Pasteur's various scientific labors form a strikingly connected series, each being logically bound to those that preceded it. Beginning with a study of the forms and significance of the crystals of certain salts, in which he made use of fermentation processes, he passed directly to the study of fermentation itself. He early appreciated the fact that this phenomenon, due as it is to the presence in fermentable liquids of microscopic living bodies, bears significantly on fundamental physiological processes; and his labors directly established the germ theory of fermentation. Fermentation led to his famous investigation of the problem of spontaneous generation, which for ages had vexed the scientific and popular mind. Organic liquids exposed to air soon become putrid and filled with microscopic beings, the origin of which was a mystery. Many believed them to originate spontaneously; others thought that the air contained a mysterious creative influence. "If in the air," thought Pasteur, "let us find it;" and by the simple device of stopping the mouths of flasks of sterilized liquids by a bit of cotton wool, he was able to filter out the influence and keep his liquids pure and free from life. At the end of a year's active work he announced a most important fact: "Gases, fluids, electricity, magnetism, ozone, things known or things occult, there is nothing in the air that is conditional to life except the germs that it carries." His position was assailed by clever men, and he was forced to defend himself. It was here that his power of perseverance first formidably asserted itself. The struggle lasted for years, and Pasteur repelled each attack, point by point, with facts acquired by ingenious experimentation, with the ultimate result of giving to the doctrine of spontaneous generation its death blow.

Fermentation and spontaneous generation prepared Pasteur for his next victory. The French wine trade was threatened with disaster. Wines prepared by the accepted methods often became sour, bitter, or ropy. It was said that they suffered from diseases, and the situation was critical. It was Pasteur's achievement not only to prove that the diseases were fermentations, caused not spontaneously but by microscopic germs, but also to suggest the simple but effective remedy of heating the bottles and thus destroying the offending organisms.

It seemed a long step from the diseases of wines to the diseases of silk worms, yet when a serious epidemic, killing the worms by thousands, threatened irreparable injury to the silk industry, it was only natural that Pasteur, with his growing reputation for solving mysteries by the diligent application of scientific method, should be called upon to aid. He responded with his customary enthusiasm, and for five years diligently sought the cause of the trouble and the cure. Though stricken by paralysis in the midst of his work, in consequence of which for a time his life hung in the balance, in three months he was again in his laboratory. Here, as in his previous labors, he achieved final success. He proved that the silk worms were infested with distinct diseases, due to easily recognizable germs. Furthermore, he devised efficient methods of eliminating the diseases, and thus he relieved from its precarious condition the silk industry of France and of the world.

By the year 1870 Pasteur's success had already assured him, at less than fifty years of age, a commanding place in the scientific world. His demonstrations of the all-important parts played by microscopic organisms in the phenomena which he had studied, had stimulated widespread investigation. He had already dreamed of the germinal nature of human diseases; and now medicine, which had long suspected them to be associated with fermentation processes, began to appreciate the significance of the new discoveries. In 1873 he was elected to fill a vacancy in the French Academy of Medicine, and from that time on he gave more exclusive attention to pathological phenomena. He investigated septicemia, puerperal fever, chicken cholera, splenic fever, swine fever, and lastly rabies. To speak at length of what he accomplished in this field would require much time. I would however mention one salient incident.

One day, chance revealed to him a unique phenomenon, the further study of which led to one of his most significant discoveries. In the inoculation of some fowls with chicken cholera, not having a fresh culture of the germs, he used one that had been prepared a few weeks before. To his surprise the fowls, instead of succumbing to the resultant disease, recovered, and later proved resistant to fresh and virulent germs. This was the origin of the pregnant idea of the *attenuation,* or weakening, of virus, which, nearly a hundred years before, Jenner unknowingly had demonstrated in his vaccinations against smallpox, and which had been employed by physicians in all the intervening time. By various methods of attenuation Pasteur succeeded in producing vaccines from the virus of several diseases, and he perfected the process of vaccinating animals and thus protecting them from attacks of the diseases in question.

The story of Pasteur's brilliant investigations of hydrophobia is too recent and too well known to relate here. They form a fitting ending to a life rich in scientific achievement, stimulating to research, and momentous in the history of scientific medicine.

In th summer of 1886 it was my good fortune to spend a few hours in the presence of this man in the rooms of the then newly organized Pasteur Institute in Paris. It was in the early days of the practical application of the results of his long-continued, devoted experimentation regarding the cause and treatment of hydrophobia. In a large room there was gathered together a motley company of perhaps 200 persons, most of whom had been bitten by rabid animals. Men, women and children, from the aged to babies in the arms of their mothers, richly dressed and poorly dressed, gentle folk and rude folk, the burgher and the peasant; from the boulevards and the slums of Paris, from the north, south, east and west of France, from across the channel in England, from the forests and steppes of Russia where rabid wolves menace, from more distant lands and even from across the seas—all had rushed impetuously from the scene of their wounding to this one laboratory to obtain relief before it was too late. All was done systematically and in order. The patients had previously been examined and classified, and each class passed for treatment into a small room at the side: first, the newcomers, whose treatment was just beginning; then, in regular order, those who were in successive stages of the cure; and, lastly, the healed, who were about to be happily discharged. The inoculations were performed by assistants. But Pasteur himself was carefully overseeing all things, now assuring himself that the solutions and the procedure were correct, now advising this patient, now encouraging that one, ever watchful and alert and sympathetic, with that earnest face of his keenly alive to the anxieties and sufferings of his patients, and especially pained by the tears of the little children, which he tried to check by filling their hands from a generous jar of bon-bons. It was an inspiring and instructive scene, and I do not doubt that to Pasteur, with his impressionable nature, it was an abundant reward for years of hard labor, spent partly in his laboratory with test tubes and microscopes, and partly in the halls of learned societies, combating the doubts of unbelievers and scoffers, and compelling the medical world to give up its unscientific traditions and accept what he knew to be the truth.

Modern Surgery.—The earliest practical application to human disease of the results of Pasteur's labors was made in the field of surgery. The horrors of the early surgery had been largely eliminated by the discovery of the anesthetic effects of chloroform and ether, and the possibility of their safe employment with human beings. But the successful outcome of an operation was still uncertain. No one could foretell when the dreaded septic blood poisoning might supervene and carry off the patient in spite of the most watchful care. Many hospitals were only death traps, the surgical patient who was taken to them being doomed to almost certain death. The suffering of the wounded in our Civil War was extreme, and during the Franco-Prussian War, the French military hospitals were festering sources of corruption, their wounded dying by thousands. To Pasteur, who realized only too well that the cause of death lay in the germs that were allowed to enter the wounds from the outside, this unnecessary suffering and death of so many brave French youths was a source of intense grief. Yet, notwithstanding his protestations and the urging of his views upon those who were immediately responsible, little good was then accomplished, for the French surgeons were slow to adopt new ideas.

In England Lister was more successful. Fired by Pasteur's discoveries regarding fermentation and putrefaction, he conceived the idea of using carbolic acid in the vicinity of the wound while an operation was being performed, for the purpose of destroying whatever germs might be floating in the air or adherent to the surfaces. This was employed successfully, and at once the mortality of surgical operations was greatly diminished. This was the beginning of the aseptic surgery of the present day, and, in the light of what it has accomplished, Lister's achievement shines with brilliance. Carbolic acid was soon discontinued, owing to more efficient aseptic agents and methods of absolute cleanliness, but the essence of the modern surgical method is the same as at first, namely, to prevent the living germs from entering the wound. Septicemia and pyemia are no longer to be dreaded, the successful outcome of surgical procedure is practically assured, and operations that were undreamed of twenty-five years ago are now daily occurrences in the hospitals of the world. The most remarkable are those that come under the general head of laparotomy, which requires the opening of the abdominal cavity, and those performed on the brain. It may be said that the greatest development of scientific or aseptic surgery has occurred in America. Here the typical American traits of ingenuity, independence and courage have borne good fruit.

Disease Germs.—Pasteur's work was epoch-making. Apart from its revolutionizing the methods of practical surgery, it has completely changed our conception of the nature and the mode of treatment of the whole group of germ or zymotic diseases, and has gone far toward solving a host of long-existing and puzzling problems of general pathology. The actual discovery of the germs of human diseases and the proofs of their specific morbific properties did not fall within Pasteur's province. Such achievement has been the lot of others, most brilliant among whom is undoubtedly Robert Koch. The bacillus of anthrax, or splenic fever, was seen in 1838 by a French veterinarian, named Delafond, but its part as the causative agent of the disease was first shown by Koch in 1876, this being the first conclusive demonstration of the production of a specific human disease by a specific bacterium. Think how recent was this event, so significant for the development of a scientific medicine and for the welfare of the human race! Koch's demonstration was made but 26 years ago, 11 years after the close of our Civil War. But it was only after repeated subsequent experiments and the piling of proof on proof by Koch, Pasteur, and others, that the new idea was generally accepted. Since then discovery has followed discovery, and the world watches eagerly for each new announcement. Koch acquired new laurels in 1882 by demonstrating the germ of tuberculosis, and in 1884 that of the terrifying Asiatic cholera. In 1884, also, Klebs and Löffler found the bacillus of diphtheria, and several investigators that of tetanus. The year 1892 revealed the bacillus of influenza, and 1894 that of bubonic plague. Besides these instances, the part played by specific germs in many other diseases has already become recognized. Smallpox, measles, hydrophobia, and yellow fever still defy the investigators, but no one doubts their germinal nature.

But scientific medicine is not content with describing species of bacteria and proving their connection with specific diseases. It must show what these organisms do within the body, how they cause disease, and by what procedure their evil activities may be nullified. Persistent and devoted research has already thrown much light on these problems, yet so much is still obscure that it is difficult to generalize from our present knowledge. The germs find lodgement in appropriate places, and proceed to grow and multiply, feeding upon the nutrient substance of their host. In certain diseases, if not in all, their activities result in the production of specific poisonous substances called *toxins,* which, being eliminated from the bacterial cells, pass into the cells of the host and there exert their poisonous effects. These effects vary in detail with the species of bacterium; and thus the individual, suffering from the behaviour of his unwonted guests, exhibits the specific symptoms of the disease.

Preventive Medicine.—In looking over the history of the search for a means of cure, one is struck by the great value of the ounce of prevention. Keeping the germs out is in every way preferable to dealing with them after they have once entered the body. This fact scientific medicine is impressing more and more deeply on the minds of public authorities and the people, and their response in the form of provisions for improved public and private sanitation is one of the striking features of the social progress of the present time. All the more enlightened nations, states, and cities of the world possess organized departments of health, which, with varying degrees of thoroughness, deal with the problems presented by the infectious diseases, in the light of the latest discoveries. Water, and milk and other foods, are tested for the presence of disease germs; cases of disease are quarantined; and innumerable provisions, unthought of 50 years ago, are now practised daily for the maintenance of the health of the people.

In the city of New York the Department of Health now undertakes, free of charge, examinations for the diagnosis of malaria, diphtheria, tuberculosis, typhoid fever and rabies. It treats all cases of rabies by the Pasteur method free of charge, and it supplies, at slight cost, diphtheria antitoxin and vaccine virus, besides mallein to aid in the diagnosis of glanders in horses, and tuberculin for similar use with suspected tuberculosis in cattle. Moreover, from time to time it issues circulars, intended for the education of physicians regarding the causation of infectious diseases and the newest methods of treatment; and through its officers and other physicians and by means of printed matter it endeavors to educate the people in matters of private sanitation.

It requires official notification by public institutions and physicians, of all cases, not only of the epidemic diseases, but even of tuberculosis. The benefits derived from these various prophylactic measures are seen in great decrease in mortality from the diseases in question. Much good is expected from the work of the newly organized Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York, which, backed by financial resources, is about to undertake an active campaign to lower the death rate from this particular disease, and to lessen the suffering and distress attributable to it.

Fifty years ago the term, preventive medicine, was unknown. To-day it represents a great body of well-attested and accepted principles. It has cleaned our streets, it has helped to build our model tenements, it has purified our food and our drinking water, it has entered our homes and kept away disease, it has prolonged our lives, and it has made the world a sweeter place in which to live.

Serum Therapy.—But if the ounce of prevention has not been applied or has failed, and the bacteria have forced an entrance into the body, what can scientific medicine do to cure? Two things are possible—the destruction of the destructive germs, and the neutralization of their poisonous toxins. The commonly recognized drugs here prove inefficient, for the simple reason that the amount of the drug sufficient to kill the bacteria is so great as to endanger the life of the patient. The most promising line of treatment has been suggested by the results of a study of the mutual relations of the bacteria and their hosts. Here again there are many gaps in our knowledge. It is not surprising that the cells of the body resent the intrusion of the barbaric horde of micro-organisms, with their poisonous offscourings. The cells are roused to unwonted activity, and pour forth into the blood specific substances, which, in many cases at least, seem to be of two distinct kinds, the *cytolysins* and the *antitoxins.* Of these, the cytolysins are destructive to the invading bacteria, while the antitoxins are capable of neutralizing, though in a manner not wholly clear, the toxic products of bacterial growth. Cytolysins oppose the bacteria, while antitoxins oppose the bacterial toxins, and the outcome of the disease depends on the relative efficiencies of the contending forces. If the invaders prove too powerful for the body cells, the individual succumbs; if the defenders prevail, he recovers.

With the picture of this natural conflict before the mind, medical science asked: "Is it not possible to aid the invaded body by providing it with weapons of the same kind as its own, but in larger quantity?" This question medical science has answered emphatically and affirmatively in the case of two serious diseases, diphtheria and tetanus, or lockjaw. By making a pure culture of their germs, and injecting their toxin into the bodies of animals, it can obtain a blood serum heavily charged with antitoxin. This when injected into the diseased human body, supplements the antitoxin there found, and by so much the patient is aided in his struggle. With both these diseases the success of the serum treatment has been pronounced. A recent study of 200,000 cases in which the antitoxin of diphtheria was used, shows the fatality from that disease to be reduced from 55 to 16 per cent. The problems presented by other infectious diseases seem to be more difficult. What seems to be required in most cases is a serum containing in quantity rather the cytolytic than the antitoxic substance, and as yet an efficient serum of this nature has not been found. Any day may yield such an one. But the matter of the relation of cytolysins and antitoxins, and their respective efficiencies in specific diseases, needs much elucidation. Serum therapy is in its infancy, but its methods appear so rational that it seems destined to develop into a most efficient branch of scientific medicine.

Second only in importance to the cure is the prevention of a future attack of the disease, or, in other words, the conferring of immunity on the individual. The disease itself, when running its natural course within an individual, confers a natural immunity against a subsequent attack, and with many diseases this may prove to be a life-long protection. Typhoid fever and smallpox, for example, rarely attack the individual a second time. In its present state the serum treatment also accomplishes immunity in some, though slight, degree, but greater and more lasting efficiency is desired. Probably no problem in bacteriology is being attacked more vigorously and more widely at the present time than this. A suggestive hypothesis by Ehrlich as to the chemical relations of the invading cells and the cells of the body, has stimulated investigations in many laboratories, and both the nature of immunity and the best method of accomplishing it, which have puzzled medicine so long, bid fair to become known in the near future. With this achieved, preventive medicine will have gained one of its greatest triumphs.

A word should here be said regarding two of the infectious diseases whose peculiar method of transmission, long a mystery, has now become known. I refer to malaria and yellow fever. The able work of Laveran, Manson, Ross, Grassi, Koch and others on the former, and that of Reed and other courageous Americans on the latter, have demonstrated conclusively that these diseases are transmitted from man to man through the aid of the mosquito, which receiving the germ from an infected individual, cultivates it within its own body and later delivers it in a properly prepared form to another unfortunate human being. Moreover, it is entirely probable that this is the sole method of the transmission of these diseases. The ounce of prevention here consists in: first, eliminating from the community, so far as possible, the breeding places of the mosquito; secondly, totally preventing, by simple screens, the access of the insect to each case of the disease. By the employment of these simple methods in

Havana, during the year ending with the end of last September, not a single case of yellow fever originated within the city, an event unparalleled in recent times. The active work now being carried on by the Liverpool School of Tropical Medicine on the west coast of Africa bids fair to reduce materially the extent of malarial fever, so long the scourge of that region.

It is impossible to predict the full outcome, in the future, of the diligent research of the past few decades in the field of the infectious diseases. Certain it is, that in civilized countries there appear no more the terrible epidemics of the past, such as the Black Death, which, in the fourteenth century, ravaged much of the continent of Europe, and in England swept away more than half a population of three or four millions. The struggle of the deadly germs for existence is becoming daily a more desperate one. Just as paleontology has revealed numerous instances of the annihilation of once flourishing species of organisms high in the scale of life, it is perhaps not visionary to look forward to the ultimate extinction of these more lowly forms and, with them, to the abolishment forever from the face of the earth of the diseases which they cause.

The study of the micro-organisms in the past and present bears upon a much wider range of subjects than the immediately practical one of the prevention and cure of individual diseases, however important that may be. It is constantly aiding, in ways surprising and unforseen, in the solution of even long-standing and remote problems. I need only mention here that of the recognition of human blood as distinguished from that of lower animals. Moreover, this study has helped in the elucidation of many of the fundamental problems of protoplasmic activity, and has given men of medicine a broader culture and a higher outlook over the accomplishments and possibilities of the human organism. This cannot fail to react upon other fields than that of the infectious diseases, to make treatment in general a more rational matter than it has ever been, and to uplift the whole science of medicine.

Before finally leaving this subject, I would speak of the many instances of personal heroism exhibited by the men who have labored in this field. The records teem with stories of those who, recognizing more fully and intelligently than others the dangers that surrounded them, and the deadly risks they were incurring, have, nevertheless, led by their great courage and scientific devotion, gone steadily forward, sometimes to death itself. There is danger in the laboratory and the hospital, and greater danger in the midst of epidemics. "What does it matter?" replied Pasteur when his friends spoke of these perils, "Life in the midst of danger is *the* life, the real life, the life of sacrifice, of example, of fruitfulness;" and he continued his labors. The death from cholera of a devoted and much-loved pupil of his at Alexandria, whither he had voluntarily gone to investigate the dread scourge of 1883, was a great grief to the master, but only intensified his devotion to his work. Since then many others have met an end as heroic, martyrs to the cause of medical progress. Among these I need only mention our own Lazear, who gave up his life in the yellow fever laboratories in Cuba. Notwithstanding such tragedies, the laboratories and hospitals are always full of workers, and each new epidemic finds those who are eager to go to the scene to aid. The good to be performed and the honors to be won overcome the fears, and the ranks of laborers in this most deadly province of scientific medicine are never wanting in men.

Internal Secretion.—Leaving the subject of the infectious diseases, let me turn now to a mode of treatment based on recent experimental work, and applied successfully to certain unusual and grave maladies, which are evidently accompanied by disordered nutrition, but the cause and proper treatment of which, until very recently, were obscure.

About a dozen years ago the phrase "internal secretion" began to be employed in physiological laboratories for the first time and for a newly recognized function of glandular organs. It was well known that glands receive from the blood raw material, and manufacture from it specific secretions, which are discharged either outside the body for excretion, as is the case with the perspiration, or to the surface of mucous membranes for use in bodily function, as instanced by the gastric juice. It was discovered, however, that certain glands, such as the thyroid, the suprarenal, the pancreas, and others, manufacture and return to the blood specific substances, differing with the different glands, but of important use to the body, and the absence of which leads to profound consequences. These substances were called *internal secretions*. Thus, removal or suspension of the function of the thyroid gland, and hence the loss of its internal secretion, reduces the body to a serious pathological state, long recognized by the name myxedema. Of similar causation is the peculiar condition, called cretinism, which is characterized by a physical and mental stunting of the growing individual. The rare Addison's disease is associated with disturbance of the function of the suprarenal glands; and other instances might be mentioned. It seemed a simple step from the discovery of the cause to the discovery of a cure. If absence of a substance is the cause of a disease, supplying that substance ought to effect a cure, and such was found to be the case. Administering to the afflicted individual the fresh thyroid gland of animals, or a properly prepared extract of such gland, was found to alleviate or cure myxedema; and other instances of the efficiency of glandular products were recorded. So striking were the facts that active investigation of the matter was undertaken, with the result of showing that the chemical interrelationships of the various tissues of the body were profound, and a knowledge of them of exceeding value to the physician. As a possible instance of this may be mentioned the idea, recently suggested by Professor Herter of New York, that the suprarenal gland, by means of its internal secretion may control the manufacture of sugar by the cells of the pancreas, an idea which, if proved true, may bear significantly on the causation and treatment of diabetes. There is need of much research in this field of the internal secretions, but already glandular extracts have proved a valuable addition to the remedies of the scientific physician.

Brain Surgery.—I have already spoken of the entire change in the methods of general surgery during a period of 25 years, owing to the rise of bacteriology. But I ought to mention specifically the remarkable advance made during the same time in the surgical treatment of diseases of the central nervous system, the brain and the spinal cord, for it is here that the scientific method has achieved one of its most complete triumphs.

Although it was pointed out by the French surgeon, Broca, as early as 1861, that the loss of the power of speech is associated with disease of a certain portion of the left hemisphere of the brain, it was still the general belief that the acting brain acts as a whole. This idea prevailed until 1870, when the German physiologists, Fritsch and Hitzig, demonstrated that stimulation of different areas of the cerebral surface evoke in the body different movements. This was the beginning of the experimental investigation of *cerebral localization,* a line of research which has proved rich in results. The brain is not one organ acting as a whole, but an association of many organs, each with its specific duty to perform, but intricately associated with all the others. In the years that have passed since the discovery of Fritsch and Hitzig it has been the task of neurologists to discover the functions of the different parts of the central nervous system, to unravel their intricate interconnections, and to associate the disturbance of their functions with external symptoms in the individual. As a result of this labor the neurologist, after a careful study of his patient, now says to the surgeon, "Cut there, and you will find the disturbing agent;"—and the brilliant success of the brain surgery of the present day justifies its scientific basis.

The New Physical Chemistry.—In the early part of this address I spoke of the freedom with which medicine made use of discoveries in other sciences than its own. A very recent and striking illustration of this is that of the application of the principles of the new physical chemistry to the phenomena of the living body. From the standpoint of physical chemistry the body may be regarded as a mass of minute particles of semiliquid living substance, the protoplasmic cells, each surrounded by a thin permeable membrane, the cell-wall, and bathed externally by the circulating liquids, the blood and lymph. Both the protoplasm and the external liquid contain substances in solution, and whatever passes between them, be it food, or waste, or drug, must pass in the form of a solution through the intervening cell-wall. The laws of solutions and the laws of the passage of solutions through membranes must hence find their applications in the body. It has been the general belief that when a substance becomes dissolved its molecules remain intact, and are merely separated from one another by the water or other solvent. Quite recently physical chemistry has shown that this view is not altogether correct, but that a varying amount of disintegration takes place, a dissociation of the molecules into their constituent atoms or groups of atoms. Moreover, these dissociated particles, *ions,* as they have been called, are charged with electricity; some, the *kations,* charged positively; others, the *anions,* negatively. Electrolytic dissociation is much more pronounced in solutions of inorganic than of organic substances. In proportion to its extent specific properties are conferred on these solutions. What these properties are is not altogether clear, but it is entirely probable that the specific properties of many drugs are dependent, in part at least, on the amount of their dissociation when in solution. Furthermore, the amount of a given substance which is able to pass through a membrane is measured by the so-called *osmotic pressure* of the substance, and this, which varies with the concentration of the solution, seems to depend on the movements of the molecules and the ions within the liquid solvent. Since the physician, in the giving of a drug, wishes to induce certain cells of the body of his patient to absorb certain quantities of the drug, it is obvious that a knowledge of the principles by which substances pass through membranes will aid him.

The laws of solutions and the laws of osmosis still remain largely obscure, and because of this the literature of the subject contains much that is of little value—deductions from insufficient data, conclusions of one day which are overthrown by the researches of the next, fantastic imaginings which only throw discredit on the really worthy, and hopes buoyed up by the light of an *ignis fatuus.* But enough of truth has been already revealed to stimulate active research for the sake of physiological progress, and to show that the subject bears profoundly on the problems which the physician meets daily. It is partly along this line that the revitalized science of pharmacology, the study of the physiological action of drugs, which for several years has been actively pressing to the front, promises to make still more rapid progress in the near future.

Medical Schools.—The growth of scientific medicine, some of the branches of which I have thus tried to present to you, has reacted powerfully on our medical schools. The prominent features of this reaction are: The increase in the requirements for admission, the greater amount of laboratory and clinical instruction, the extension of the course in length, and the inclusion of the medical schools within universities.

Within a few years the requirements for admission to medical study have been raised from an elementary education, by many schools, to that of a high school course or college preparation, by a few to a partial college training, and by two to a full college course with a resulting bachelor's degree. As the wisdom of the latter is still not generally conceded, it is doubtful whether in the near future it will become widespread. Ideal as it seems, the one argument against it, that thereby the young man is forced to delay entrance to his life-work until a late age, has never been satisfactorily answered. President Butler's recent pronouncement in favor of a division of the college work into a two-year and a four-year course, has much in its favor. This would allow a certain amount of those studies which are pursued for the purpose of general education and culture, and a grounding in the especially necessary chemistry, physics, and biology.

The increase in the amount of laboratory and clinical instruction is merely in harmony with the truth that seeing is believing. "Study nature, not books," says Agassiz, and he might have added for the guidance of the teacher, "Weary not your pupils with words, let them see things."

In length the medical course has rapidly increased from two to three, and from three to four years. With the increase in the number of hospitals throughout the land, and the opportunities offered therein to recent graduates to serve as internes under competent visiting physicians, one or two years more may be added to the student's equipment, making a training of five or six years before the young doctor actually begins independent practice.

The inclusion of the medical schools within universities is one of the most important advances of medical education made in many years. Of the 156 schools existing in this country 74, or nearly one-half, are departments of colleges or universities. In this respect, however, America is still far behind Germany, for in the latter country no medical school exists except as a part of the larger institution. The advantages of such a connection are too obvious to dwell upon. Apart from the material benefits that are likely to accrue to the school, and the prestige granted it in the educational world, there is the atmosphere of a higher culture, a more scientific spirit, and less utilitarianism, which is breathed by instructors and students alike and which cannot fail to make the graduates broader men. In the larger of these university schools a portion of the teaching body consists of men who do not engage in medical practice, but, like the instructors in the non-professional schools of the university, give their whole time to their specialties, in teaching and research. Usually these are the holders of the chairs of the non-clinical, basal sciences, anatomy, physiology, pathology, bacteriology, physiological chemistry and pharmacology. The outcome of this must be to broaden and deepen the scientific basis of medicine. The clinical branches are still taught by men who are at the same time private practitioners. In a recent thoughtful essay on "Medicine and the Universities," a professor in one of our leading medical schools urges the further severance of medical teaching and private medical practice. He would have internal medicine, surgery, obstetrics, and, indeed, all the principal clinical departments of instruction, placed like the fundamental sciences, "on a true university basis," by which he means that the holders of these chairs should devote all their time and energy to teaching and research. This would require the paying of large salaries and the building of extensive university hospitals, wherein the professors could carry on their investigations. In my opinion the benefits that would thus accrue to scientific medicine far outweigh the arguments that may be brought against so radical a change, and, notwithstanding its highly idealistic character, in view of the present unparalleled generosity of private wealth in endowing scientific research, the present rapid and sure progress of medicine, and the intimate connection of medical advance with the interests of all classes, I look forward confidently to the future establishment of our medical schools on a basis more nearly parallel with that of the non-professional schools of the university.

What now as to the future of medical science? With the impetus which it has received from the mighty strides of the past 25 years, its future progress and future great achievements are assured. But it behooves us in whose hands lies the training of the physician, to see that he enters on his work with a full realization of his responsibilities. *The future of scientific medicine lies with the university.* "Though the university may dispense with professional schools," said President Wilson in his inaugural address at Princeton a few weeks ago, "professional schools may not dispense with the university. Professional schools have nowhere their right atmosphere and association, except where they are parts of a university and share its spirit and method. They must love learning as well as professional success, in order to have their perfect usefulness." The perfect usefulness of the professional school consists, not merely in teaching our embryo physician how to destroy bacteria, to remove tumors, or to calm the fire of fevers. These things he must understand, and these he must do daily for the suffering individual. But beyond these are larger tasks. The physician's life should be one of service and of leadership combined. He serves well when he relieves suffering; still better, when he teaches men how to live; but he serves best of all, when he pushes out into the unknown and makes medical science the richer for what he contributes to it. The knowledge of wise men, the deeds of diligent men, and the valor of heroes are the gift of those who have preceded him. Let us see to it that he pass on this heritage augmented, to those who follow.

Illinois State Association of Trained Nurses.—The regular monthly meeting of this association was held Dec. 8, in Schiller Hall. Dr. W. A. Evans, president of the Chicago Medical Society, addressed the members.

ORIGINAL ARTICLES.

ACUTE PANCREATITIS; WITH THE REPORT OF THREE CASES.

BY GEORGE WOOLSEY, M.D.,
OF NEW YORK.

ACUTE inflammation of the pancreas as a condition amenable to surgical operation is not of frequent occurrence, and is rather obscure. Considerable light has been recently thrown upon this subject by the publication of pathological and experimental researches, and the report of operations. The three cases here reported all belong to a distinct group of inflammations of the pancreas, with acute onset and general invasion of the peritoneum, and without gangrene or abscess of the pancreas. A similar case operated upon by Dr. Eliot was in my service during convalescence.

The classification of pancreatic inflammations has formerly, for some unknown reason, been unlike that of inflammation elsewhere. Robson[1] wisely adopts the classification of acute, subacute, and chronic which is applied to inflammations elsewhere. Acute pancreatitis may be divided into several varieties according to the presence or absence of certain striking features and sequelæ, *i.e.*, hemorrhage, necrosis, abscess, or general peritonitis.

Acute pancreatitis is one of the causes of sudden death, as first brought into notice by Zenker in 1874, and in most cases of acute pancreatitis the patient is in a more or less profound collapse at the onset of inflammation. This collapse Brentano[2] attributes to the infection of the peritoneum, which, in his opinion, most often takes place through the perforation of a suppurating focus in the gland. But as the collapse comes on at the very onset, this explanation seems hardly probable. The nearness to the solar plexus is assigned by others as a reason for the collapse. In acute cases, such as those leading to sudden death, the presence of hemorrhage is a frequent feature. The gland is more or less infiltrated with small hemorrhages, and more extensive ones may be found in the root of the mesentery, the retro-peritoneal tissue, or the lesser peritoneal sac. It is still a disputed point whether this hemorrhage is primary, or is secondary to the inflammation and results from it. The latter view has been strongly upheld by Fitz, and is now the one most generally accepted. In Case I there was apparently a hemorrhagic condition, by which the fluid in the peritoneal cavity was deeply colored and the report of the microscopic examination of this fluid stated that it "looks like decomposed blood." Robson[1] was the first to suggest an explanation of this hemorrhage in cases of acute pancreatitis. He suggested that it was due to the action of the glycerin liberated in the fat necrosis. It has also been suggested[3] that it might rather be due to the action of the peptones and albumoses produced by the action of the pancreatic juice escaped into the tissues. Besides the hemorrhages, a hemorrhagic tendency, similar to that sometimes observed in cholemia, is sometimes present in pancreatitis. This, Robson[1] thinks, may perhaps be explained by a diminution of blood-plates, which was found on examination. This hemorrhagic tendency is more often, if not exclusively, observed in cases of chronic pancreatitis where the indurated head of the pancreas obstructs the common bile-duct by pressure. Robson has found doses of calcium chloride (gr. 30-60 t.i.d.) useful in the prophylaxis or treatment of this hemorrhagic tendency, especially when due to pancreatitis.

Another feature of some cases of acute pancreatitis, also illustrated by Case I, is the occurrence of fat necrosis in the subperitoneal fat, as in the omentum, etc. This condition is sometimes found in other ailments, but is rarely met with apart from affections of the pancreas. It is not found in all acute pancreatic diseases, and is most constant in hemorrhagic and necrotic pancreatitis, less often in pancreatic abscess, etc. This is borne out by the three cases reported, for the condition was found in only one, and that a case of hemorrhagic pancreatitis. It is essentially due to the interference with the discharge of the pancreatic secretion, and to its escape into the tissues, whence it may enter the lymph and blood-vessels. Flexner[4] has studied fat necrosis pathologically and experimentally, and reaches the conclusion that the escape of the pancreatic secretions into the tissues about and near the pancreas is the cause, and that this escape is chiefly due to lesions of the pancreas, including those interfering with the discharge of its secretions, and also to disturbances of its circulation. He thinks that it is highly probably that fat necrosis is due to the presence of the fat-splitting ferment steapsin which he could demonstrate to be present.

Flexner[4] states that the pancreatic secretion may enter the peritoneal cavity without setting up a diffuse inflammation. In Case I, where fat necrosis was present, and in Case II, where pancreatic secretion was found in the fluid in the peritoneal cavity, no pathogenic organisms were found. Williams[5] states that peritonitis is not usually present with multiple fat necrosis. Ceccherelli,[6] in a paper read before the Paris Congress in 1900, says that the extravasation of normal pancreatic secretion into the peritoneal cavity never causes peritonitis. Bottini[7] states that the pancreatic secretion, coming in contact with the peritoneum, may indirectly cause peritonitis, but the essential cause of the latter is bacterial infection. Bacteria may reach the pancreas through its ducts, and in other ways, and are the immediate and essential cause of the various forms of acute pancreatitis.

Another variety of acute pancreatitis is characterized by the occurrence of necrosis of the tissue of the pancreas in whole or in part. As to its cause Opie[8] regards it as a late stage of the hemorrhagic lesion. Experimentally it is shown that lesions of or near the pancreas are apt to involve necrosis of that organ. This condition has been operated upon a number of times, but the prognosis is grave. R. Morian,[9] in 1889, stated that of 11 cases operated on for hemorrhagic necrosis of the pancreas, with abscess, only one recovered, and that one had severe diabetes later on. That these figures do not represent the results of the more recent surgery of the pancreas is evident from an examination of the literature and from personal reports. Brentano[10] reports a case of recovery after operation and two cases of Hahn's. Broeckel,[11] in a paper read before the Paris Congress of 1900, reports 20 operations on pancreatitis purulenta et gangrenosa with 11 recoveries.

Suppurative or purulent pancreatitis is another variety or advanced stage of acute pancreatitis. A localized abscess may occur in or about the pancreas, as a result of necrosis of the pancreas or without the occurrence of such necrosis. Abscess may also result from a subacute pancreatitis. It is in this variety or stage that most operations for acute and subacute pancreatitis are performed. In the three cases forming the basis of this report, and the similar case of Dr. Eliot's, there was no localized abscess, but the infection of the peritoneum was more general. Hence we may be justified in grouping these cases as another variety of acute pancreatitis. The reports of operations on such cases in the literature of the subject seem less common, hence the greater interest attaching to them.

In this connection we may remark that Flexner adopts Oser's classification into: (1) Acute hemorrhagic, (2) suppurative, (3) necrotizing, and (4) chronic indurative pancreatitis. But, as we have seen, the first three forms are merely varieties of acute pancreatitis.

As to the etiology, the cases here reported have little to suggest except that alcoholism, which was pronounced in Cases II and III, is an important factor, probably by causing a gastro-duodenal catarrh. The latter condition is indicated in the several attacks of colicky epigastric pain associated with vomiting. As Robson[1] says, the essential and immediate cause of the various forms of pancreatitis is bacterial infection, and the usual channel of infection is the duct. Hence the inflammation of the gastro-duodenal tract predisposes to this infection. For a similar reason stones of the pancreatic duct or the lower end of the common bile-duct may act as extrinsic causes, as pointed out by Robson and others. The last-named writer was told by a pathologist that in cases of obstruction of the lower end of the common bile-duct pus can usually be expressed from the duct of Wirsung. It is in the etiology of the chronic forms of pancreatitis that impacted gall-stones, or operations performed for their removal are particularly important. None of the cases here reported gave a history of previous injury, which is one of the causes of pancreatitis. It may result from trifling blows, and it has been suggested that the sickening sensation due to blows on the epigastrium is due to the bruising of the pancreas rather than of the solar plexus. Acute pancreatitis is most common in males, and sometimes attacks those in the most robust health.

As to the symptoms, all my cases were much alike. There was a sudden onset with more or less collapse—as indicated by the pallor, feeble and rapid pulse, and general prostration—severe cramp-like epigastric pain, not relieved by the vomiting, distention of the abdomen, and an irregular temperature. In the class of cases reported there is soon abdominal rigidity and tenderness, but no mass can be palpated. In only one of the cases (Case I) was there obstinate constipation simulating intestinal obstruction. This is not infrequently observed, and may lead to an error in diagnosis. It is attributed by Brentano[10] to effusion into the lesser peritoneal sack, causing an irritation of the peritoneum. The distention of the colon, etc., is thought by Dörfler[12] to be due to pressure on the solar plexus.

Glucose in the urine was only present in Case III, and was here an important factor in leading to a diagnosis. In Robson's[1] experience it rarely occurs, in fact appearing only in extensive cirrhosis or malignant disease of the pancreas. Brentano[10] says that it appears when the pancreas in whole or in part has been destroyed. It has also been observed aften operations for necrosis of the pancreas. Opie[8] detected a relationship between lesions of the islands of Langerhans and the occurrence of diabetes.

Fat in the stools was not observed in any of the cases reported, though Robson regards it is more common than glycosuria, but not at all universal. Although Walker, of Peterborough,[1] showed that the absence of pancreatic secretion from the intestines, even if the bile is present, led to pale-colored stools, the latter were dark in all the cases reported, though, from the condition of the pancreas as felt, it is more than probable that none of its secretion entered the intestines.

The diagnosis is almost always difficult and uncertain, owing to the variety of inconstant and contradictory symptoms. The sudden onset, collapse, severe and cramp-like epigastric pains not relieved by the vomiting, the abdominal distention, in connection with some etiological factor (injury, alcoholism, biliary calculi, etc.) and the exclusion of other lesions, sometimes enable one to make a very probable diagnosis. When, in addition, there is glycosuria or an excess of free fat in the stools, the diagnosis is still more probable. Most cases are not diagnosed before operation. This happened in Case I. In Case II a probable diagnosis was made by reason of the recent occurrence, within a week, of Case I. Case III was diagnosed by the group of typical symptoms combined with the alcoholic history and the glycosuria. As to the confirmation or establishment of the diagnosis by the operation—in all three case the pancreas was felt to be hard and enlarged throughout; in Case I there was fat necrosis and bloody fluid; in Case II the fluid gave a pancreatic test; and in Case III there was peritonitis without other cause. Edsal[13] has studied the diminution of the etheral sulphates in the urine to which some attach importance as an aid to diagnosis. He concludes that this sign is not constant, nor of much value, and only of importance when positive.

As to operative treatment, it is generally admitted that operation should be avoided in the acute early stages when the symptoms are indefinite and the patient is in collapse. As the diagnosis is uncertain, the operation is often undertaken for some of the conditions which it simulates and from which it may be difficult to differentiate it—intestinal obstruction, septic peritonitis from an unknown cause, biliary colic, etc. In the class of acute cases represented by those here reported, the treatment resolves itself, as Robson[1] well says, into that of peritonitis commencing in the superior abdominal region. I have employed anterior abdominal incisions only; Robson[1] recommends, in addition, or as a substitute if the diagnosis is made, a posterior incision in the left costo-vertebral angle. The latter is especially useful in cases of necrosis or of localized pancreatic abscesses. Of course, in cases like those reported irrigation and drainage of the peritoneal cavity are necessary. Vigorous stimulation is required, with or without saline infusion during and after the operation.

The prognosis is grave in acute pancreatitis. If the patient survives the collapse there is the danger of necrosis, abscess, or general peritonitis. The prognosis varies with the severity and form of the acute inflammation. Statistics are not yet sufficient to warrant an exact statement. The hemorrhagic form appears to offer the worst prognosis, five recoveries in 23 operations (Boeckel[11]), the necrotic form the next worse, if it is not equally bad. When a localized abscess forms, the prognosis is probably better. What the prognosis is, in the variety of acute pancreatitis to which my three cases belong, I am unable to say. Certainly the 100 per cent. of recoveries of these three cases would not apply to a large number of similar ones. These were all very sick patients, and in all the result was very uncertain for some days after operation. The prognosis in all was considered very doubtful. Undoubtedly the prognosis of acute pancreatitis without operation is very much worse. Recovery without operation is almost out of the question, though Morian[9] states that two cases of recovery are known after spontaneous evacuation through the bowels.

The pancreas itself is now added to the list of those parts attacked directly by operation. Ceccherelli[6] says that experimentally the removal of the entire pancreas is possible and is compatible with life, and F. Franke[14] reported at the last Congress (1901) of German Surgeons three cases of carcinoma of the pancreas operated on by himself, in one of which total extirpation was said to have been performed with recovery. The patient died 5½ months later of recurrence in the lymph nodes without the occurrence of diabetes. Of the three cases whose histories are appended, Case II was seen a year later in good health, and Case III was recently under observation and in excellent condition.

Case I.—Acute Pancreatitis. Fat Necrosis of Omentum.—T. H., female, aged twenty-four years; single; admitted Sept. 21, 1900.

Previous History.—Typhoid fever seven years ago. Two years ago several attacks of cramp-like pain in the epigastrium with vomiting, lasting several hours.

Present illness began three days ago with cramp-like pain in the epigastrium. After 24 hours, pain most severe in right iliac region. Vomiting began on second day and has persisted. Bowels constipated for past three days in spite of cathartics.

Examination.—Patient is poorly nourished, anemic, and looks sick and septic. Tongue heavily coated. Abdomen somewhat distended. General rigidity and tenderness of the abdomen, more marked in the lower half of right side. Pain in the abdomen is severe and general, most marked, however, in region of appendix. No mass palpable. Vaginal examination: Cervix points somewhat tranversely, tenderness in right lateral fornix, no mass palpable.

Operation, Sept. 21.—Intermuscular incision over appendix. Several ounces of a dark-brownish fluid came away, and still more of the same fluid was removed from the pelvis. The appendix and pelvic organs found to be normal. Gall-bladder felt to be slightly enlarged and adherent. Oblique three-inch incision parallel with and below right costal margin exposed gall-bladder, which was a little distended and adherent to omentum at one or two points. Several ounces of a dark-brown fluid escaped on opening the peritoneum. At the junction of the small omentum with the lesser curvature of the stomach was a greenish-yellow patch of the size of a quarter of a dollar, looking necrotic, and a similar area in the great omentum just below the stomach, surrounded by several smaller patches. In the omentum presenting in the lower wound were two or three areas studded with small yellowish-white spots resembling fat necrosis. Specimens from these and the upper areas were taken for examination. The pancreas was palpated and felt to be much enlarged and hard. Drainage of sterile gauze surrounded by rubber tissue introduced through lower wound to iliac fossa and pelvis and through upper wound to gall-bladder and necrosed area near stomach. The remainder of the wounds were sutured in layers. Probable diagnosis of acute pancreatis with fat necrosis. Patient collapsed during operation, but responded to saline infusion of 1500 c.c.

The temperature rose to 101.5° F. on the two following days, and to 102° on the third day, but after that came down. The pulse, during the same time, varied from 92 to 120, and then dropped with the temperature. For the first two days the patient was restless, complained of severe abdominal pain, and vomited once each day. The bowels did not move until the third day after the operation, after which the patient was more comfortable. The drainage-wicks were gradually shortened and two small sinuses remained when the patient was discharged, Oct. 10, to return for dressings to the accident ward.

Pathological Examinations.—Leucocytes: Sept. 21, 39,000; Sept. 22, 15,500; Sept. 28, 16,800; Oct. 2, 14,200. Examinations of urine showed a trace of albumin, no casts, a few leucocytes, a maximum specific gravity, 1.034, Sept. 22, and no sugar. Specimen excised from omentum; microscopic examination (Dr. Thacher); a number of little spots of fat necrosis surrounded by a little inflammatory infiltration. Fluid from abnormal cavity; microscopic examination (Dr. Thacher); specimen looks like decomposed blood.

Case II.—Acute Pancreatitis.—F. J. C., male, aged thirty-two years; married; driver; admitted Sept. 26, 1900.

Previous History.—Moderately heavy beer-drinker. Denies venereal history. Never had jaundice. Always well, save for attacks called colic. One year ago severe epigastric pain and frequent vomiting, bowels regular. In bed two weeks. Four months ago similar attack. The pain would occasionally shoot up to the right and left shoulder and from the epigastric region around the right costal margin. Similar attack on the evening of Sept. 21, but not so severe. He worked the following day, but has not felt well since.

Present illness began with a chill the night before admission, and with increase of epigastric pain. Bowels moved after cathartic. At 10.30 A.M. was seized with violent cramps in abdomen, and vomited three times.

Examination.—Patient is somewhat anemic and looks sick and septic. Tongue coated. Slight abdominal distention. Abdomen is rigid, especially under the costal margin. Tenderness marked in epigastrium and both hypochondriac regions, slightly more on right side. No mass palpable. Some tenderness in lower right side of abdomen and around umbilicus. Patient suffering severe pain. Diagnosis of possible pancreatitis, the first case being in mind.

Operation, Sept. 26.—Three-inch median incision above umbilicus. Slightly turbid serum escaped from general peritoneal cavity. Gall-bladder and stomach normal. Intestines slightly congested. The pancreas could be palpated through the stomach, traced from left to right and felt to be hard and enlarged. The head especially presented a hard mass, suggesting inflammatory deposit or new growth. Drainage down to the foramen of Winslow, sterile gauze surrounded by rubber tissue. Pulse rapid and feeble at end of operation.

The temperature ran high, 101.5° to 104° F., and the pulse rapid, 86 to 140 for the first four days only. Saline infusions given Sept. 27. No vomiting after recovery from ether. Patient very restless, noisy, and delirious much of the time for first week, and then much better. He was alcoholic, and large quantities of whisky seemed to effect his restlessness and delirium better than drugs. The bowels moved the second day and regularly thereafter. The urine contained epithelial, granular, and hyaline casts, and a considerable trace of albumin, but no sugar. The drainage was removed after 48 hours and considerable reddish-brown fluid escaped from the wound. The stitches were removed on the fifth day.

The leucocytosis was 17,600 Sept. 26, before operation; 21,400 Sept. 27, and 9,000 Oct. 1. Pathological examination of fluid from peritoneal cavity showed microscopically very large cocci, evidently non-pathogenic. It changed boiled starch into glucose in half an hour, indicating the probable presence of some element of the pancreatic juice (Dr. Tuttle).

Discharged cured, Oct. 15, 1900.

Case III.—Acute Pancreatitis. General Peritonitis. Pelvic Abscess.—J. P., male, aged twenty-nine years; married; truckman; admitted July 27, 1901.

Previous History.—Is a steady and hard drinker of beer and whisky. Smokes to excess. No history of syphilis. Always well, except for attacks of "indigestion" after drinking hard, when he has pain, chiefly in the epigastrium. He was a painter six years ago, but never had painter's colic.

Present Illness.—He had been drinking hard and eating almost nothing for the past week or more and had vomited occasionally. On July 16 (the day of admission to the Medical Division) after drinking beer he vomited immediately and had sharp pain in epigastrium which was not relieved by vomiting and did not radiate. The whole abdomen was markedly tender, rigid, and distended. The vomiting continued for the first few days in hospital and the vomitus was greenish in color. The bowels were regular, the stools dark brown, and no free fat or fatty crystals were detected. The urine was of high specific gravity (1.050) and contained sugar; the first day gr. xxviii. to oz. i., the second day a trace, and none subsequently. Many hyaline casts were present. The temperature was irregular (99° to 102⅖° F.) with a tendency to an evening rise. Pulse, 88 to 110, small and soft.

I first saw the patient July 17, at the request of Dr. Thacher, and again on the eighteenth and nineteenth. The diagnosis of probable acute pancreatitis was made from the alcoholic history, the sudden onset, the intense epigastric pain and tenderness not relieved by vomiting, the abdominal distention, the sugar in the urine, and by exclusion. As the symptoms gradually but steadily diminished, operation, though advised, was delayed. On July 26 the leucocytosis was 26,000; abdominal distention had reappeared; and tenderness and rigidity, which had increased in the last two or three days, were more marked in the lower right side of the abdomen. Septic peritonitis was evidently present, and he was transferred to the surgical side July 27.

Operation, July 27.—Median incision below umbilicus. On opening peritoneum a large quantity of foul-smelling purulent serum mixed with gas escaped. This pus was found throughout the peritoneal cavity, which was thoroughly washed out. A median incision was made above the umbilicus, and the pancreas was felt to be much enlarged, firm, and hard. A few adhesions were found between the stomach and liver, and were broken up. Otherwise the viscera were normal, except for congestion of the intestines most marked in lower half of abdomen. The appendix was not found on the right side, and the pelvis was closed by adhesions of the intestines. These adhesions were broken up, and revealed an abscess in the pelvis containing pus similar to, but thicker than, the pus in the peritoneal cavity. In the walls of the pelvic abscess was the appendix, which was swollen, but apparently not otherwise diseased. This pelvic abscess was thoroughly cleaned out. Owing to the poor condition of the patient I refrained from dividing the gastro-colic omentum and inspecting the pancreas, as I desired to do. Gauze drainage was carried through the lower wound from the pelvis and right iliac fossa, and through the upper wound from near the foramen of Winslow. The angles of the wounds were sutured.

The temperature reached 101° F. the second day after the operation and 104° the third and fourth days, and then gradually fell to about normal. The pulse varied from 86 to 130. He vomited considerable quantities of brownish fluid for the first four days after the operation and occasionally thereafter. There was considerable abdominal pain for the first four or five days. The bowels moved freely on the third day, and thereafter he had a profuse diarrhea for 10 days or two weeks. His appetite was poor and he emaciated rapidly. He was dressed on the third day, and daily thereafter for some time. The discharge was profuse, the drainage gradually shortened, and at the time of his discharge from hospital, Sept. 6, the upper wound had been healed for three weeks, and a small granulating area remained in the lower wound. His weight was much increased and his general condition greatly improved.

Pathological examination of fluid from abdominal cavity by Dr. Tuttle showed streptococci, but the growth was not characteristic of the most virulent variety.

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International Historical Congress.—This Congress will take place at Rome in April, 1903. It is intended that a section shall be devoted to the history of medicine.

RUBELLA SCARLATINOSA.*

BY
FREDERICK C. CURTIS, M.D.,
AND
HENRY L. K. SHAW, M.D.,
OF ALBANY, N. Y.

In studying the literature on rubella, one is greatly impressed with the lack of agreement as to just what constitute the distinctive features of the disease. Practically all the later writers agree that it is a disease *sui generis* and not a hybrid or modified form of scarlet fever and measles. The question has been raised as to the possibility of another distinct disease which has heretofore been masquerading as one of the accepted forms of the acute exanthemata.

To decide this point, reports of cases and of epidemics presenting unusual features are of immense value, and for the reason of elucidation, not of confusion, this paper is presented.

The outbreak under consideration occurred in the small village of Round Lake, Saratoga County, N. Y., early in April, 1901. This is a summer resort, having a winter population of about four hundred people. The only physician residing here is Dr. P. C. Curtis, who necessarily has an intimate acquaintance with every family. The writers are greatly indebted to him for his kindness and courtesy in placing the necessary facts and data at their disposal.

On March 11 Dr. Curtis was summoned to the family of a farmer who lived just outside of the village. He found three children slightly ill with a temperature of about 100° F., pulse 80 to 90. The "throats were congested in all three cases and the glands of the neck were enlarged." On examining the body he found an eruption which extended uniformly over the chest, trunk, arms and legs. This was bright red and strikingly suggestive of scarlet fever. Dr. Curtis was greatly surprised, as he had treated two of these children a few years before when they had an attack of undoubted scarlet fever.

However, he diagnosed the disease as scarlet fever and quarantined the farm. A week later he revisited the farm to see that his orders were complied with and found that the eruption had lasted about three days and that the glands of the neck were still enlarged. This farmer supplied milk to the residents of Round Lake, but moved his cows and utensils from the farm when directed to do so by Dr. Curtis. Nineteen days after the physician's first visit, he was summoned to the farm of a neighbor of the family just described and found a young man, twenty years old, suffering from a well-marked case of German measles. The eruption first appeared on the face and extended over the entire body. At the same time, his sister, aged twelve years, had a rash on her chest and back, identical with the cases in the first family. Her face was clear, and while the throat was sore and the temperature 99⅖° F., the child did not feel ill. The health officer of the adjoining town was sent for and after a careful study of the cases he agreed with Dr. Curtis that one of the cases was German measles and the other scarlet fever.

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*Read at the Annual Meeting of the Schoharie County Medical Society, Cobleskill, N. Y., May, 1902.

The next day, March 31, the first case appeared in the village proper. On April first, six cases developed and the disease spread like wild fire. Dr. Curtis personally treated 147 patients and a number of cases existed to his knowledge, where, on account of the mildness of the attack he was not called. It is perfectly safe to say that one-half of the inhabitants of the village contracted the disease.

When the disease appeared in the village, Dr. Curtis began to doubt the correctness of his diagnosis of scarlet fever and sent for Dr. Frederic C. Curtis, one of the writers of this paper, who is connected with the State Department of Health. In studying this epidemic, the writers each made four visits to Round Lake and personally examined over thirty cases.

The endemic character of the disease was very striking. No attempt was made to quarantine the individual patients or the town as a whole, yet only a few isolated cases appeared in the nearby towns.

There were several instances of people who left the village during the outbreak and came down with the disease in distant parts, sometimes communicating it there to their immediate associates, but in no instance did it spread where thus transplanted. Children went daily to school in Troy and elsewhere without disseminating the infection.

In the mind of the resident health officer, there seems to be some ground for believing that the infection was carried in the milk. The first cases appeared in the family of the man who supplied milk to the village and all the cases with a few exceptions occurred in families thus supplied. There was no instance of a nursing baby having the disease and two or three infants who were being fed on cow's milk, but did not take it from the milkman, were not infected.

A majority of the patients were adults. Out of the 147 cases treated, 81 or 60 per cent. were in persons over twenty years of age. No child under twelve months developed the disease. In one family seen by the writers, the father, mother and four children had the disease in severe form and the baby was the only member of the family that escaped. The other extreme of life was not so fortunate, as 18 cases occurred in persons over sixty years of age. The number of cases at various ages were as follows: One to five years, 9; five to ten years, 26; ten to twenty years, 31; twenty to thirty years, 18; thirty to forty years, 18; forty to fifty years, 19; fifty to sixty years, 8; sixty to seventy years, 11; seventy to eighty years, four; eighty to ninety years, three.

The period of incubation as near as could be definitely ascertained averaged about 19 days. This was the interval which elapsed between the first two cases. A servant employed in the family of Dr. Curtis went to her home about 50 miles distant and after a few days came down with the prevalent disease. Exactly 21 days later her sisters were taken ill with the same symptoms.

The onset was generally sudden and in the severe attacks was attended by feelings of malaise, headache, sore throat, slight fever and enlargement of the lymph nodes in the region of the neck, groin and axilla. In the milder form the rash and the enlarged glands were the only symptoms observed. There was no sneezing or redness of the conjunctiva in any of the cases.

Sore throat was present in every case and was often very severe. The intensity of the inflammation varied from a slight hyperemia to a severe congestion with an exudate on both tonsils in many instances. Several cultures were made and sent to the Bender Laboratory at Albany, where they found no Klebs-Loeffler bacilli.

Enlargement of the lymph glands was a constant manifestation of the disease in every instance. The chain of lymph nodes situated along the posterior border of the sterno-cleido-mastoid muscle were invariably palpable. In the severe cases those of the groin and the axilla were enlarged. They showed no tendency to suppurate or break down, although they could often be felt for five or six weeks after the attack. These glands were enlarged even in the mildest forms where a rash over the chest had been the only sign of the disease.

The pulse was not rapid and in the patients seen by the writers, it varied between 80 and 100. In no case seen by Dr. Curtis was the pulse over 120. The temperature was also much lower than would be expected from the intensity of the eruption and some of the symptoms. The average temperature was 100° F., while in a few cases it rose to 102.5° F.

The urine was examined literally hundreds of times by Dr. Curtis and in no instance was any albumin detected. One of the writers examined a number of specimens from the severer cases and those where desquamation had taken place, but could discover no traces of albumin even with the more delicate tests.

The Cutaneous Lesions.—These had some variety as observed in cases seen by us from time to time in various stages. In the majority the color was bright red, like that of scarlet fever and not infrequently would, to superficial examination, be taken for it. Closer observation showed a macular quality which was not wholly lost over areas where the eruption was apparently fully confluent. There was a greater intensity in spots with fading to a lighter hue between them. Over other areas the mottled appearance was pronounced, showing spaces of clear or but slightly congested skin. In some few instances there was more dullness of color, an approach toward the tint of measles, and the contrast was appreciable between these types in members of the same family seen side by side. There was not the punctate redness so marked in scarlet fever. Its behavior on pressure was different from that in scarlet fever; instead of the prolonged blanching with red punctæ of deeply congested papillæ which characterizes the scarlatinal rash, there was uniform but transient blanching on pressure. This is a point of importance.

The duration of the active skin lesion was generally about a week. The majority probably terminated in flakey desquamation at least on the hands and feet, and in the more marked cases of these there was no material difference in this respect from the desquamation of scarlatina. But in other individuals seen side by side with them there was little but a branny desquamation; few failed to have some desquamation. The desquamation of the tongue which produces the characteristic strawberry appearance was not observed in any instance. The eruption was universal; our notes do not show that there was much on the face; it was most intense on the anterior trunk and the limbs.

Not a single death was attributable to this disease with the possible exception of one, a female past seventy, who had the disease and in whose case there was marked enlargement of the cervical lymph glands and who died from possible secondary complications attributable to the disease. The benign quality of the epidemic is remarkable, as there were a large number of persons affected, many of whom were severely ill.

The complications and sequelæ were as follows: rheumatism, 29; bronchitis, four; pneumonia, two; erysipelas, three; erythema nodosum, three; acute otorrhea, 12; quinsy, three; pleurisy, one; cystitis, one; myocarditis, one.

A few extracts from notes taken by the writers at the bedside of some of the patients will serve to illustrate the clinical aspect of the disease:

McC., age nine years. Was first seen April 7, 1901. Two days before felt well and was outdoors all day. Was taken sick yesterday with a sore throat, headache and malaise. He acted as if he had taken a heavy cold. The eyes were not congested. Twelve hours later a rash was seen on his chest which spread rapidly over the entire body. The rash at first glance looks exactly like that of scarlet fever. It is bright red in color and the area around the mouth is white. It extends over the entire body and is more intense over the back, inside of thighs and over the knee-joints. On closer inspection the rash is more mottled and areas of healthy skin can be seen. The fading on pressure does not last so long as in scarlet fever. Tongue thickly coated and papillæ not enlarged. The throat is markedly congested but no exudate is present. Pulse 100, strong and regular. Temperature 102.4° F. Lymphatic glands about neck, back of sterno-cleido-mastoid muscle, axilla and groin, all enlarged and palpable. April 15.—Boy is up and around but is anemic and quite weak. For the past three days has desquamated in large flakes. Large pieces of epidermis could be stripped from the abdomen. The skin was bluish and cyanotic with a mottled appearance. This boy has never had scarlet fever. Several examinations of the urine have been made all of which were negative. The parents and all the children in this family had the disease except a nursing baby nine months old. The case described was the only one in this family where desquamation occurred.

K., age 27 years. Painter by occupation. Two days ago complained of a sore throat but went to work the next morning. In the afternoon became quite sick and had to return home and on going to bed discovered an eruption over the chest. When seen the next day the eruption was over the face, body and extremities. It is a mottled macular eruption which fades on pressure. Tongue coated and no suspicion of the strawberry appearance. Temperature 101° F. Pulse 96. Throat is red and inflamed, more so on the right side, and there is a dirty yellow exudate on both tonsils. A culture was taken which showed only staphylococci. All the glands about neck are enlarged and are more marked on the right side. The patient appears very ill. April 15.—Patient is very weak. The eruption has not fully disappeared and there is some desquamation over abdomen. He complains of pain in right ear which later discharged. He is pale and anemic and unable to go to work. The glands are still enlarged. Examination or urine negative. The wife and only child of this patient had the disease.

Girl, five years old. Was taken sick last night. The rash was first noticed on the chest and back this morning and spread rapidly over the body so that at 5 P.M. when the child was first seen it covered the whole body. The eruption is bright red in color but does not fade long on pressure. The row of glands back of sterno-cleido muscle are plainly enlarged. The throat is inflamed and red. Tonsils large. Tongue thickly coated. Temperature 101° F. Pulse 90. An older sister had this eruption two weeks before and the lymph nodes were still palpable. She had had a severe attack of scarlet fever six years before. An older brother also had had a mild attack and the glands were enlarged. He had had scarlet fever six years before.

The question of diagnosis in any of the eruptive diseases of childhood is not always a simple one on account of the many aspects of the eruption, differences in the length of incubation, individual idiocyncrasies, variations in the course and type of the epidemic, etc. Dr. Caiger, in a recent discussion before the British Medical Association, aptly said, that the confidence a man placed in the infallibility of his diagnosis was often in inverse ratio to his experience.

The epidemic we have attempted to describe varies from the classical text-book description of any of the established acute exanthemata in what have been heretofore regarded as essential elements. The problem of diagnosis therefore presents some difficulties.

Measles can be eliminated, as there were but one or two cases where the possibility of measles could be suspected from the character of the eruption, and there was no catarrhal involvement of the conjunctiva or upper air passages.

Rubella now occupies a conceded place among the acute exanthemata. It has been regarded as lying between the opposite poles—measles and scarlatina. It does not protect from measles and scarlet fever and attacks of the two latter diseases afford no immunity from rubella. Confusion has arisen because, although fairly identical in other respects, it presents variations in the cutaneous lesions, in different, and even in the same epidemics. In one form, which is perhaps the more common, the skin lesions bear resemblance to measles and for convenience this has been called *rubella morbilliforme*, while the other inclines toward the scarlet fever pole and is termed *rubella scarlatiniforme*. The appearance of the eruption, sore throat and desquamation immediately suggests scarlatina, but a closer analysis of the various symptoms shows that many of the manifestations of the epidemic are incompatible with such a diagnosis.

The very striking endemic character of the infection has been mentioned and is not at all characteristic of scarlet fever, which has a decided tendency to spread wherever planted, and is very tenacious of infection. Notwithstanding the large summer influx of visitors and a lapse of 15 months there has not been a single case of scarlet fever in Round Lake since the epidemic described, or in fact for several years previous.

In a very excellent description of rubella, Ashby says that it is often prevalent in one locality and that if an individual goes to another while incubating, he suffers from an ordinary attack and the disease does not spread, although he comes in contact with many persons. This is thoroughly consistent with our Round Lake experience.

The incubation of scarlet fever is short, in a large proportion of cases it is under four days. An incubation period of six days is rare in scarlet fever. Rubella on the other hand has a much longer period of incubation and the limits set by a number of authorities lie between seven and 21 days. In the Round Lake cases the incubation period was certainly over two weeks. In two definite authentic cases it was 19 and 21 days.

One of the most constant symptoms of the invasion of scarlet fever is vomiting. In an analysis of 1,008 conservative cases of scarlet fever by Dr. Caiger, in which the history of the onset was especially studied, vomiting occurred in 80 per cent. This therefore is a symptom of no little diagnostic importance in scarlet fever, yet there was no vomiting observed in the epidemic we have described.

A point strongly emphasized in some of the text-books and recognized by most practitioners is the rapidity of the pulse in scarlet fever. This is the main, and in fact, the only distinctive feature of the pulse, and it is faster than the temperature or general state of the patient would indicate. The pulse in rubella is not accelerated, and in our epidemic it rarely rose over 100 and never over 120.

In the description of the cutaneous lesions given in the account of the disease, the character of the eruption was fully entered into and it is unnecessary here to go further into the differential diagnosis. The question of desquamation is however a very interesting one. It has been held previously, almost as a universal axiom, that desquamation in large flakes following an eruption was proof positive of scarlet fever. This we hold to be untrue. Any severe dermatitis may be followed by such desquamation. It almost invariably follows severe sunburn and there have been cases of German measles recorded where there was a copious peeling.

Lewis Smith, writing many years ago of an epidemic of rubella, spoke of one case where the desquamation was as free and in as large flakes as he had ever seen in scarlet fever. Dukes, writing to the London *Lancet* in 1894, on rubella, mentions that he has seen desquamation as free as in the worst cases of scarlet fever. Ashby in a private communication says that the old idea that desquamation necessarily meant scarlet fever was passing away, although it was strong presumptive evidence of that disease. Schamberg in a recent article says: "I am convinced that too much stress in the diagnosis of scarlet fever has been placed on the mere occurrence of desquamation. Desquamation is the terminal stage of certain inflammatory changes in the skin, and is not at all peculiar to any one disease."

The tongue presents one of the most characteristic objective signs in scarlet fever. The epithelium becomes completely denuded after two or three days, presenting the easily recognized and typical "strawberry" tongue. In no other form of sore throat whatever do we find this appearance. Crozier Griffith in a private communication says that he has never seen a case of scarlet fever without the strawberry tongue. It is doubtful if a diagnosis of scarlet fever can be rightly made without the presence of the strawberry tongue. This appearance of the tongue has never been observed in rubella, and its absence in all the cases at Round Lake is, in the opinion of the writers, one of the strongest proofs that the disease was not scarlatina. A number of cases in various stages of the disease were closely examined by us for evidences of denudation of the tongue, but in no instance was it detected.

Involvement of the lymphatic system was a constant manifestation of the disease and presented one of the interesting features of the epidemic. The submaxillary and deep cervical glands are frequently enlarged in severe cases of scarlet fever and are more or less tender on pressure. Schamberg made a study of the lymphatic glands in 100 cases of scarlet fever and found that while the cervical glands were most frequently enlarged, the maxillary glands attained the largest size and most frequently underwent suppuration.

One of the diagnostic signs of rubella is the enlargement of the lymph glands, especially those in the region of the neck. They are invariably enlarged even in the mildest expression of the disease. Not infrequently can they be detected early in the attack, even before the appearance of the eruption, and may remain enlarged for several weeks thereafter. Koplik reports a case in which the nurse noticed the glandular enlargement six days before the eruption came out. There is a remarkable unanimity of opinion in the literature on rubella regarding this lymphatic enlargement which is conspicuously absent concerning any of the other symptoms.

The chain of lymph nodes situated behind the sterno-cleido-mastoid are the most frequent and constant group affected. They are not painful and can be easily rolled under the fingers. It has already been stated that the lymph glands were enlarged in every case at Round Lake and that the chain of nodes just referred to were invariably enlarged. In no instance did the glands suppurate. This constant enlargement even in the mildest cases, appearing as it did in some instances before the eruption, is not consistent with the glandular involvement in scarlet fever. Enlarged glands may occur in any of the acute exanthemata and in other conditions, but the uniformity of their appearance in this epidemic is noteworthy.

Sore throat is an important and constant symptom of scarlet fever but it is also found in rubella although to a much less degree. It was present in all the cases in our epidemic, and in many cases there was a tonsillar exudate. Cheadle has called attention to the fact that in cases of rubella there is often a severe pharyngitis with enlargement of the tonsils, and even membranous film upon them.

Scarlet fever is essentially a disease of early childhood and one in which the susceptibility diminishes as the age increases. In a series of 70,000 cases collected by Dr. Caiger only 45 or six-one thousandths of one per cent. occurred in persons over fifty years of age. Rubella on the other hand, while a disease of childhood, affects adults almost as frequently as children, and in the Round Lake epidemic 11 per cent. of the cases were in persons over fifty years of age.

The mortality of scarlet fever is from two to 30 per cent. in different epidemics, and it is fair to say that the general average mortality is about five per cent. It is doubtless true, however, that the type of the disease varies much and that in recent times there has been some prevalence of scarlet fever of quite a mild type. Under ordinary conditions the prognosis of rubella may be considered invariably favorable. In crowded tenements and under bad sanitary surroundings, some fatal cases have been reported. There was not a single fatal termination to any of the Round Lake cases. An epidemic of 200 cases of scarlet fever without a single death is perhaps unheard of.

Transient albuminuria during the course of scarlatina occurs, according to Eichhoist, in from 77.6 to 92 per cent. of all cases. This does not mean that there is any pathological alteration in the structure of the kidneys although a true post-scarlatinal nephritis is present in from five to 30 per cent. of all cases. The specific virus or toxin of scarlet fever circulating in the blood acts as a direct inflammatory irritant upon the kidneys when eliminated.

No mention is made in the literature of albuminuria occurring during the course of rubella. Ashby says that to find that a patient whom we have declared to be suffering from German measles, has acute nephritis is, to say the least, an unpleasant discovery. At Round Lake an examination of the urine was made in all of the cases, and in many of them a number of tests were made at various stages of the disease, but no albumin was ever detected and no case of nephritis developed.

Second and even third attacks of scarlatina are known to take place, but undoubted cases are rare. Henoch has seen but one authentic case of a second attack of scarlet fever and there are certainly exceptions to Cullen's law that one attack of an infectious disease always confers immunity. These exceptions are most unusual and the fact that Dr. Curtis knows positively that eighteen of the Round Lake cases had previously had scarlet fever is very strong presumptive evidence that this epidemic was not one of scarlet fever.

In so large an epidemic where the symptoms presented so similar a course, it will not be necessary to discuss the various erythematous rashes which simulate scarlet fever such as are occasionally caused by drugs and septic processes.

The existence of a fourth disease has recently been ably contended by Dr. Clement Dukes. He claims that rubella scarlatinosa is a distinct and separate disease. This claim is based on the study of three epidemics occurring in English schools. A careful analysis of his cases by such experienced observers as Caiger, Willard, Watson, Williams, Marsden, Ker and Crozier Griffith shows that in the opinion of these men he has not established his point, from the evidence of his own cases. The consensus of opinion seems to be that the first epidemic was rubella, the second both rubella and mild scarlatina and the third mild scarlatina. Ker in concluding an exhaustive discussion on this subject said that only one verdict is possible regarding the contention of Dr. Dukes, and the verdict is a Scottish one,—"not proven."

Dukes in a letter to the London *Lancet* makes the following differential diagnosis between scarlet fever and fourth disease. (1) The pulse in scarlet fever is accelerated, while in fourth disease, even with the fullest rash, the pulse is not increased in frequency. (2) In scarlet fever with an abundant rash there is always a marked rise in temperature, while in fourth disease, even with the fullest rash, the temperature is not raised over 99° F. (3) The strawberry tongue is always present in scarlet fever while it is never observed in fourth disease. (4) After a full rash in scarlet fever there is always a copious desquamation, whereas the most intense rashes in fourth disease are not necessarily followed by any peeling. (5) Persons with fourth disease may go out and about the country, even when desquamating, and not spread the disease, whereas in scarlet fever a widespread epidemic would inevitably result.

All the above statements concerning the fourth disease are equally true in regard to rubella, and do not in the slightest degree indicate or necessitate a distinct disease. It is unnecessary in our opinion, to further complicate the diagnosis of the acute exanthemata, and to launch into the already too troublesome sea, a new disease when minor variations are found from established type. Griffith does not express himself too strongly when he says, that the existence of a fourth disease would be a universal calamity.

SOME OBSERVATIONS IN THE CHILDREN'S HOSPITALS OF LONDON AND PARIS.*

BY LINNÆUS LA FÉTRA, M.D.,
OF NEW YORK;
CHIEF OF CLINIC AND INSTRUCTOR, DISEASES OF CHILDREN, COLLEGE OF PHYSICIANS AND SURGEONS; ASSISTANT ATTENDING PHYSICIAN TO NURSERY AND CHILD'S HOSPITAL, NEW YORK.

Hospital conditions in Europe differ greatly from those in the United States. Usually a part of the State or city administration, the hospitals have abundant means, and enjoy a marvelous prestige among the people at large. Their medical staffs are not accountable to lay boards, and their authority over patients is absolute during life, both for study and treatment, and, should death ensue, for postmortem examination. But notwithstanding the many differences, the hospitals of all great cities have one condition in common—too many patients. And by reason of the vast number of patients who must be treated, they have a common problem: This problem is a complex one; for, while the chief aim in any hospital is the safe and speedy cure of the patient, there must always exist the wider purpose of advancing the science of medicine and of instructing others in its art. This means, that while indoor and outdoor patients are being cared for, the study of the etiology, physical signs and pathology of disease must be carried on; better modes of treatment must be sought out; and at the same time the abundant material provided is to be utilized to the best advantage for the instruction of students at the bedside and in the clinic. How can all this work be accomplished without overtaxing the endurance and time of the overworked house-staff and dispensary-assistants?

London and Paris present conditions probably more nearly like those of New York than any other foreign cities, and it may be interesting to note in what ways their children's hospitals are solving this intricate problem. Both London and Paris are much better supplied with hospital accommodation for children than is New York; and this accommodation is not in the wards of a general service, but mostly in special children's hospitals. In London the principal ones are the East London, Evelina, and Great Ormond Street. These hospitals are much like our own older institutions, and, as far as the regular wards are concerned there is no great difference in their handling of patients. There is usually however a proportionately greater number of men on the house staff than with us, and this gives a chance for better work in the wards and laboratories.

But it is the management of their out-patient departments that is especially worthy of note. I shall speak particularly of the Great Ormond St. Hospital where I visited the large outdoor service of Dr. George F. Still.

From the general receiving room passage-ways lead to four treatment rooms and to the isolation room. In each treatment room there are three or four physicians and a nurse. One of the junior physicians or students acts as medical history clerk. Not more than 20 patients are allowed to be treated in any one room during the morning. Overflow cases if urgent are treated by one of the house staff detailed for emergency work. One of the attending physicians of the hospital has charge of the four rooms, and serious or obscure cases are referred to him; suitable cases being sent into the wards.

As each new patient comes into the receiving room the mother is given a card on which are printed the various questions as to pedigree and illness that will be asked by the receiving clerk and the medical history-clerk. While waiting for her turn she has a chance to think them out and be ready with the answers,—a great time-saving device. Cases that are in any way suspicious are at once sent to the isolation room; other cases are assigned in rotation to one of the four treatment rooms. There is an anteroom opening off each treatment room, and while the child waits here it is undressed, and the temperature, pulse and respiration are taken. When the medical history clerk is ready for patients he sends to this anteroom, and the children already undressed are taken in, one or two at a time, and with them goes a record of the temperature, pulse and respiration. The physical examinations are thorough, but it is surprising how rapidly the patients can be disposed of when there is not the delay of taking temperatures, and the waiting for children to be undressed. Urine and blood, cultures and sputa are examined in the hospital laboratory near-by. The small number of foreigners was noticeable to one accustomed to such a mixture of nationalities as we have here. The cases run much as with us, only there seemed to be a larger proportion of choreic, rheumatic and cardiac cases. I saw nothing extraordinary in the way of treatment. The favorite plan even with mild cases of chorea is to confine the child to bed, give absolute rest, forced feeding and comparatively large doses of arsenic. The management of outdoor feeding cases is no more satisfactory than with us. Scalded or boiled milk diluted with starchy gruels and with the addition of cream are prescribed, but the various proprietary foods have the vogue among the laity. To make sure that the mothers understand how to prepare the foods ordered—milk and cream mixtures, whey, gruels, beef juice, etc.,—printed directions are given in each case similar to those now in use at the Babies' Hospital in this city. They also have printed directions telling how to take care of rachitic or paralyzed children. I learned that the Walker-Gorden laboratory is used by many physicians in their private practice, but there is a general lack of appreciation of the advantages of percentage feeding.

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Across the Channel, in France, they have many ways of honoring the medical profession, but their custom of naming the hospitals after noted physicians seems especially appropriate. The impression produced upon me as I passed into the different pavilions under the names of the great French physicians of the past was both thrilling and inspiring. The public recognition and honor which the profession receives in France must prove a powerful incentive to the medical man to do worthy work.

In Paris the principal hospitals for children are the Hôpital des Enfants Malades, Hôpital des Enfants Assistés (corresponding to one of our foundling or orphan asylum hospitals), Hôpital Trousseau and Hôpital Bretonneau. The first thing that strikes one on entering is that the hospitals have abundant light, air and ground. The Hôpital des Enfants Malades, though old and in a populous district, occupies as much land as one of our large city blocks. The newer hospitals—Trousseau and Bretonneau—have been built on the outskirts of Paris, one to the East and the other to the North. These locations have been chosen, not for economy, since the government pays for them, but because of the better results obtained in hospitals far removed from the city's dust and noise. The hospitals are all laid out on a large scale, the general plan being that of a system of pavilions. Even the old Hôpital des Enfants Malades has two fine new pavilions for measles and diphtheria.

A description of the Bretonneau Hospital will give a fair idea of all. Naturally the out-patient department is nearest the street. Here I noticed in one of the examining rooms a peculiar arrangement for partial isolation of suspicious cases—several stalls in which patients were put until the physician had a chance to examine them. Each attending physician of the hospital is responsible part of the year for the out-patient department, having his set hours for "consultations externes" which he attends as regularly as his indoor service. In this manner the responsibility for the externe service is placed, and the outdoor patients have the advantage of the "Professor's" diagnosis and advice on their first visit to the dispensary. Beyond the out-patient department are the various pavilions of the regular service—surgical, medical, pathological, and a pavilion each for diphtheria, measles, scarlet fever and whooping-cough. The pavilions are low, only two or three stories high, and are separated from each other by stretches of lawn and gravel walks. One of the internes called my attention to the fact that the scarlet-fever pavilion overlooks the wall of the Montmartre cemetery; but this has really no sinister significance, since the mortality from scarlatina is very low. Before leaving the entry gate of the hospital each student or visitor is invested with a gown which is worn throughout the round of the medical wards. At each different contagious pavilion another gown is added, to be discarded on leaving that pavilion. They are just as careful about entering an ordinary medical ward as we are here about going into the pit of a surgical amphitheatre to witness a major operation. This practical belief in the communicability of disease is well-manifested by the many devices for isolation—even of patients in the same contagious pavilion. In each ward there are two or more isolation rooms, and into these, complicated or malignant cases are carried as soon as they develop. Perhaps I might better say that the isolation room is carried to the patient. For in many instances the little isolation rooms are portable, consisting merely of three partitions (one of which contains a door), high enough to reach the ceiling, and so constructed that they may be placed around a bed in such a way as to include one window for ventilation. The partitions are solid for about three feet from the floor; above this they are glazed just like an old style many-paned window or the roof of a hot-house. This arrangement permits plenty of light and air in the little room, and the isolated patient can be seen from the ward; moreover the ward is not darkened as would be the case without the use of glass. In the diphtheria pavilion I saw in these isolation rooms cases of malignant and laryngeal diphtheria, and a case with a doubtful rash. Before coming out from one of these small isolation rooms—of the second power we might call them—extra antiseptic precautions are taken. Antitoxin is the routine measure for treatment and prophylaxis, and I saw several intubated cases. The tubes used are various—O'Dwyers, and several modifications, and also different forms of introducers. Removing the tube by pressure with the thumb is a procedure which is very skilfully practised, but which is not without its dangers.

In the scarlet fever wards the most interesting thing I heard was the statement that they seldom find nephritis as a complication or sequel. This is attributed by Sevestre to the scrupulous cleansing of the mouth and pharynx, the idea being that the nephritis is due to a special streptococcus found in the mouth. But of course we know that French scarlatina is of a much milder type than ours.

Even in the medical wards care is taken to prevent the conveying of the different diseases from one patient to another. A device of Grancher is a sort of wire fence or screen around the bed employed in such cases as typhoid or pneumonia: this reminds the nurses that special antiseptic precautions are to be taken after handling the patient.

As regards infant feeding, the French physicians are only beginning to appreciate the advantages of clean raw milk over sterilized and pasteurized milk. Most of the milk sold in Paris is sterilized; the rest is pasteurized. There is great need in Paris of a Milk Commission to raise the standard of the milk supply. Again the French physicians are not familiar with the principles and the advantages of percentage feeding. Perhaps this is due to the fact that wet-nurses are so easily obtained for their private patients. The substitute foods most in vogue are sterilized milk, either whole or slightly diluted, the lactated farinaceous foods, the maternized milks, the latterly—an importation from Holland and Germany—buttermilk boiled with flour gruel. It seems strange that notwithstanding the almost universal use of sterilized and starchy foods, so few cases of scurvy have been reported in France.

The attending physicians devote a great deal of time to their hospital work, both for the study of the cases and for the instruction of internes and students. I had the pleasure of making the rounds with Prof. Sevestre and with Prof. Marfan, men more conscientious in their work it would be impossible to find. Students are assigned to work up special cases in the wards; they make a thorough study and report to the Professor everything about the case, from history to cure or to postmortem findings. This lightens the work of the house staff, and adds interest to the student's work. Urine, blood bacteria, the various secretions and excretions are investigated in the pathological and chemical laboratories, which are usually in charge of a pathologist and physiological chemist. Some of the best work on the ferments and biological properties of human milk has been done in the laboratories of the children's hospitals of Paris.

58 West Fifty-eighth Street.

IMPRESSIONS OF THE NON-HEREDITY OF ACQUIRED CHARACTERS.

BY LEWIS S. BLACKWELL, M.D.,
OF PERTH AMBOY, N. J.

An article in a late number of the Medical News on the Non-Heredity of Acquired Characters by Mr. Irwell, a member of the legal profession of Buffalo, will undoubtedly elicit a large amount of interest and comment. While the members of the medical profession are not specialists in biology, they have for ages been engaged in the study and investigation of the science of life.

The heights they have reached and the convictions they have embraced and cogently expressed have taken deep root, and are not easily displaced by innovations which "have the smell of fire upon them."

It is extremely doubtful if the statement made by the author in question, "that physicians are unwilling to make themselves familiar with the subject of heredity," is susceptible of demonstration. In the study of morbid conditions it is natural to assume that heredity would and has commanded as much interest and attention as any other factor in etiology. Jenner's discovery of vaccination by which he obtained financial recognition from the British government and immortal honor that will endure long after his monument in Trafalgar Square shall have crumbled into dust, in connection with the preventive and curative influence of lymph and the application of aseptic medication, present a potent argument against the correctness of this assertion. With the mental and physical degeneration arising from an indulgence in strong drink, in connection with the results of the signal strides of progressive medicine, there is a tendency at the present day, on the part of some of the younger members of the profession to lose sight of the grand achievements of tne past, and satiate their pride by the glory of the present. This thought was presented in the Medical News some time since in an interesting and admirable article by Dr. Charles W. Dulles, at one time editor of *The Medical and Surgical Reporter.*

The reference to the statement of Dr. Wolf, that out of 600 Jewish boys, "two per cent. were born partially circumcised" seems irrelevant as proof of the influence of heredity. This ordinance was instituted by the Almighty in a covenant made with Abraham, and was simply an artificial observance, eliciting no greater anticipation than to expect that a woman whose leg had been amputated would have offspring with a single lower limb.

In the definition of the hereditary tendency by a noted writer and teacher we note that: "It is not diseases, generally speaking, that are inherited. It is only the peculiarities of structure or constitution which serve as predispositions to disease."

As the tendency of spirit drinking is to induce mental, moral and physical deterioration, we would naturally infer and assume, that the acquired habit in one generation would induce the same degeneration in the next; and evolve a hereditary condition. As heredity often overleaps one generation or manifests its influence in some psychoneurotic disease, it is difficult to say whether the alcoholic habit is hereditary or acquired.

The quotation from Dr. Adami's paper, which occurs in Mr. Irwell's article, states: "That alone is inherited which is the property of the individual, at the moment he becomes an individual, which is a property of the germ plasma from which he originates." This is certainly a truism, and accepted as a fact it seems perfectly plausible to assume that any element by which it was infected would be transmitted to the fetus, and in the case of syphilis on the part of either or both parents, would manifest its presence, as it has been revealed in the autopsy of a seven-months' fetus. Dr. Adami claims "there is no such thing as hereditary syphilis, yet admits the existence of congenital syphilis. To the average mind it is difficult to conceive of the existence of a congenital disease without recognizing its prenatal entity.

Dr. Paul Sollier of Paris ventilates his views of heredity in an exhaustive and interesting article in the first number of *Wood's Medical and Surgical Monographs.* The writer in his extensive researches has unfolded an immense amount of clinical evidence in support of his claims, and the searcher after literature on heredity will there find ample material to gratify his ambition. "In France," he says, "opinion appears to be almost unanimous as to the heredity of alcoholism."

The Academy of Medicine of Belgium has twice made the effects of habitual drunkenness on the progeny the subject of competitive essays. If this can be considered as an expression of the sentiment of that country we may assert that the medical profession there considers heredity one of the most powerful causes of alcoholism. The same opinion prevails in Germany.

But it is more particularly in England and America that alcoholism is considered a hereditary disease.

Crothers says: "Inebrity is positively transmitted from one generation to another."

In summing up his argument Mr. Irwell reaches the conclusion "that the acquired taste for alcohol is not transmitted to the next generation, but if it were, the Jews who have had alcohol for innumerable years would have been wiped out by its use. This is not so; indeed we Jews are an extremely sober people."

According to this theory the American nation is on the high road to extinction. The indicator however does not point in this direction, and the conclusion apparently reveals the falsity of the premise. Nevertheless, the statistics of the results of the drink habit unfold a fearful invasion of human life.

According to Darwin, "alcoholism is transmissible through three generations, and the families of drunkards die out at the fourth generation after having gradually sunk in the scale of degeneration, both physical and intellectual."

This statement is in accord with the decree of the Almighty, "visiting the iniquities of the fathers upon the children unto the third and fourth generation," and may be assumed as an expression of hereditary law.

After an expenditure of the highest intellectual energy, and after we have brought all the resources of science to the solution of this great problem, we approach the Delphic oracle of Mount Parnassus, and with Job exclaim: "Canst thou by searching find out God?"

MEDICAL PROGRESS.

SURGERY.

Ice Following Abdominal Section.—The proper use of ice may often prevent or control post-operative peritonitis, and its products and mortality correspondingly lessened. F. F. Simpson (Am. Gyn., Oct., 1902) bases this opinion on several hundred cases in which this treatment was clinically studied. The mortality hardly exceeded one per cent. After having seen so many grave cases yield to this method of treatment it seemed to the author that, by beginning the use of the ice before the peritonitis had actually developed, it would be possible to prevent its occurrence. The results of this idea have been carried out and have given more than satisfactory results. Many complained at first of the weight of the ice, but when it was removed begged to have it put back. No injury to the skin has followed its use; and no depression of the general system has been observed. The healing of wounds has not been retarded by it. For the relief of pain (traumatic) one or two bags filled with ice over a thin dressing will usually suffice. But where a frank attack is feared or has set in, five or more bags should be employed. They should be separated from the skin only by a towel, a binder or a very thin gauze dressing. There are some few contraindications to its use. Cold should never be used to the exclusion of other well-known medical and surgical principles and measures. Formerly the author believed the post-operative kidney lesions were a contraindication to the use of ice, but from more recent experiments it is to be believed that if a serious peritonitis is to be feared extreme cold to the abdomen is far less harmful than the inflammation it prevents or checks. When grave post-operative peritonitis is to be feared or has set in, the author believes that there is no contraindication to the use of ice locally. When merely a slight traumatic reaction exists in the presence of a nephritis, a tendency to catarrhal enteritis, attacks which are precipitated by exposure to cold, and where rheumatic and bronchial attacks follow slight chilling, when the pain is due to a well-defined abscess with very little peritonitis, and when it is of intestinal origin, hot applications probably serve a better purpose. In conclusion the writer shows that in all his cases the local symptoms of inflammation subsided first, and that later the constitutional symptoms due to the absorption of poisons already produced, disappeared also.

Removal of the Urinary Bladder.—The two most important points in this operation are, says A. Lapthorn Smith (Am. Gyn., Oct., 1902), first, how to get the bladder out, and second, what to do with the ureters? It is interesting to note that in Dr. Bovée's 100 cases, compiled from the literature, the ureters were engrafted into the bowel 31 times and together with that part of the bladder containing the ureteral valves, 44 times; into the urethra 13 times, into the vagina eight times and into the skin four times. The results of Peterson's experiments in dogs proved that transplantation of the ureters into the bowel is almost always followed by ascending infection and death. In man the mortality has also been high when the ureters have been grafted into the bowel; in 31 cases there were 13 deaths, seven of which were from ascending infection. The death-rate in malignant disease is over 50 per cent., but in exstrophy it is but 19 per cent., which would seem to indicate that if the malignancy were diagnosed earlier the operation would yield better results. The author's case was done for malignant tumor and resulted fatally. A modified Pawlik operation was performed. The patient had had intense pain and frequent micturition, and it was to relieve these disagreeable and distressing symptoms that the operation was performed. The ureters were first transplanted into the vagina and the urethra turned into the vagina and the vulva closed; the bladder was to be removed at some later time, about five or six weeks afterward. This method of operating has given two deaths in eight cases. The high death-rate should not discourage us when we remember that 25 years ago the mortality in hysterectomy was 75 per cent.

Kidney Diseases Causing Pyuria.—The surgery of the kidney has made such rapid progress during the past few years that it is not at all uncommon now for an accurate diagnosis to be made of the kind and location of a suppurative process in one or both of the kidneys. This accuracy is almost entirely due to the carefulness in examination and the improved methods which have made more exact information possible. R. Guitéras (Med. Rec., Nov. 8, 1902) divides the renal diseases accompanied by pyuria into pyelitis, pyonephrosis, suppurative nephritis and pyelonephritis. The first, pyelitis, is usually due to the extension of an inflammation from the lower urinary tract or to the presence of a stone. Pyonephrosis is a pyelitis accompanied by an obstruction in the pelvis or ureter giving rise to dilatation of the pelvis and calices of the kidney with pus, which gradually results in the destruction of the kidney itself. A suppurative nephritis is commonly of hematogenous origin, due to a pyemia or to a stone or tubercle in the renal tissue itself. Pyelonephritis is a condition best described as a combination of suppurative pyelitis and nephritis. Much information can be obtained from the history and physical examination, but a careful urinary analysis by a competent person, followed by a separation of the urines from the two kidneys is necessary to determine the exact nature of the lesion and to prognosticate the value of an operation. The simple presence of pus in the urine gives one no idea of its source and it is therefore necessary to rely upon the examination of other inflammatory products in the urine. Large numbers of epithelial cells are very helpful to an experienced eye, for the cells of the convoluted tubules, collecting tubules, pelvis, ureters, bladder and urethra can be differentiated. Casts are also very important aids in making out the nature of the disease. An acute process usually causes the formation of hyaline, epithelial and blood casts, while the granular, fatty and waxy casts mark a chronic nephritis. Pus-casts, *i.e.,* casts of any type studded with pus cells, or masses of mucus covered with pus cells, mean, as a rule, renal suppuration. The size of the cast has been used very ingeniously to tell the extension of the process. In order to make sure that the process is limited to one kidney and that the function of the other is normal, cystoscopy, ureteral catheterization, segregation of the urine from each kidney, the X-ray and exploratory incision may be employed. Nephrectomy is a serious operation and should never be advised unless all these methods have been employed and the diagnosis made as absolute as possible.

Radiotherapy in Cancer.—The cutaneous carcinoma presents the most favorable condition for the action of the X-ray and time has now shown that a large percentage of these growths may be cured by this method of treatment. In a series of 50 cases reported by C. W. Allen (Med. Rec., Nov. 15, 1902) in which 33 were of the cutaneous type, 26, or 52 per cent., were discharged as clinically cured, and ten were continuing the treatment with marked improvement. Even in breast cases, both primary and secondary, the results are certainly most gratifying. With our increased knowledge in the use of the X-ray there is promised a most efficient remedy for those otherwise fatal and oftentimes inoperable conditions.

Early Diagnosis of Cancer.—The fact that so many subjects of internal cases do not come under observation until too late for operative interference has led I. Boas (Deut. med. Woch., Oct. 30, 1902) to propose a number of suggestions bearing on this matter. The Belgian government has lately issued public circulars bearing on the prophylaxis of venereal diseases, and in a similar manner he believes the public may be instructed in the early symptoms of cancer. Persons so affected could then apply to a physician at the first indication of symptoms, instead of wasting valuable time in the treatment of supposed stomach troubles, hemorrhoids, etc. In the author's own experience of 54 cases of carcinoma of the rectum seen in the past six years, 80 per cent. were inoperable. The true condition had not been diagnosed in the overwhelming majority, although digital examinations had often been made. Moreover, in all suspicious cases, the patient should be admitted to a hospital for observation for several weeks, and returning after an interval, if any doubt existed. Not only would the public be benefited by such measures, but the students and physicians would acquire valuable training in the early recognition of carcinoma.

Radical Cure of Hernia.—The interest taken at the present day in the radical cure of hernia makes the publication of new methods and statistics of signal value. Frank Martin (Phila. Med. Jour., Nov. 22, 1902) presents an analysis of 116 cases which he has operated and which present some features of interest. He considers general narcosis as preferable, but in four selected cases used spinal cocainization with success. Local anesthesia has also given good results, the skin infiltration with salt or Schleich solution being followed by "blocking" the ilio-inguinal and ilio-hypogastric nerves with one or two per cent. solution of cocaine. His method in 95 cases of inguinal hernia was similar to the Halstead operation, but internal oblique and transversalis muscles are not cut. The sac is tied off with fine silk continuous suture. Silver wire mattress sutures are employed to bring muscles, fascia and Poupart's ligament together, four below and one or two above the cord. Over these the aponeurosis of the external oblique is united by a continuous suture of silk. The skin is closed with a subcutaneous silver wire suture. The wound and groin are immobilized with light wooden splints and the patient kept in bed for three weeks. Primary union was secured in all but two cases. No recurrences were observed. In 73 cases of non-strangulated inguinal hernia no deaths occurred. In 22 strangulated cases, five deaths occurred, one from shock, the others from septic peritonitis. In two cases of non-strangulated femoral and five cases of non-strangulated umbilical hernia, the mortality was nil. In 10 cases of strangulated femoral and three of strangulated umbilical hernia, one death from peritonitis occurred in each variety.

Intestinal Occlusion Due to Tuberculous Peritonitis.—Surgical intervention in two cases of intestinal occlusion was practised by Monad and Chavannaz (La Presse Méd., Nov. 5, 1902) and in both cases the cause was found to be tuberculous peritonitis. The first patient, a woman of twenty-seven years, had a sudden attack of obstruction. Laparotomy revealed the presence of tuberculous granulations, disseminated about the pyloric region and surrounded by an area of marked hyperemia. No trace of mechanical obstruction was found; apparently the obstruction was due to intestinal paralysis. The second patient was an apparently healthy man of fifty years. The obstruction developed subacutely, suggesting neoplasm of the large intestine. Laparotomy was resorted to after two weeks of unsuccessful treatment. Marked ascites was present; the parietal peritoneum was abnormally vascular and the intestinal coils slightly adherent: the rectum and sigmoid were empty. The soft adhesions were readily broken up by digital manipulation. The patient was discharged convalescent two weeks after the operation, but succumbed to an acute peritonitis five months later. In this instance there were apparently two causes of obstruction: paralysis of the bowel, and adhesions. Exact diagnosis cannot be made before operation. Wherever the weakened condition of the patient does not contraindicate a prolonged operation and necessitate the rapid performance of colostomy, median laparotomy should be done if tuberculous peritonitis is suspected. Laparotomy permits the removal of any cause of obstruction other than paralysis of the gut, and a further advantage in its favorable influence upon the course of the tuberculous peritonitis.

Six Cases of Rupture of the Intestine, with Four Recoveries.—A record of four recoveries in six cases of rupture of the intestine signifies prompt, efficient surgery. These cases are reported by F. B. Lund, E. H. Nichols and J. T. Bottomley (Bost. Med. and Surg. Jour., Nov. 27, 1902). Prognosis apparently depends largely on the length of time allowed to elapse between the accident and the operation, for the two cases which were lost were operated upon latest, the delay in one case being 18 hours, and the other 20 hours. Beyond the fourth or fifth hour every hour of delay adds greatly to the danger of a fatal issue. These writers urge the importance of operating at once where there is reasonable suspicion of rupture. It will not do to wait until there are signs of certain perforation. In most cases exploration alone will give a definite diagnosis sufficiently early for successful surgical relief. Usually there is evidence of direct contusion of the anterior abdominal wall. One of Dr. Bottomley's cases is unique, for no such evidence was obtained. This patient was knocked down on a wharf, on a fairly even surface, presenting no projections. In this case the rupture was probably from within not from without. It is well known that perforation of the intestine in traumatic cases has occurred from within the bowel, the fluid contents of a loop of gut being confined for the time in a narrow space, and by the impact of the violence, being thrown into a state of tension sufficiently high to burst through the intestinal wall.

Perforation of the Bowel in Typhoid Fever.—No single complication of typhoid fever is more dreaded by the attending physician and more fatal to the patient than perforation of the bowel late in the third or during the fourth week. Regarding the surgical aspect of this question, G. E. Armstrong (Ann. of Surg., Nov., 1902) makes the following statements: He feels that early diagnosis and operation are the two factors upon which one must depend to achieve greater success in saving the unfortunate victims of this deplorable and terribly fatal complication of enteric fever. The proposition that the sooner a hole in the intestine is closed the better can hardly be debated. As a general principle, it does not admit of argument. Granted certainty of diagnosis, the great argument against immediate operation is the presence of shock. In his own experience, marked shock generally indicated a large perforation, or at least the escape of a considerable quantity of contents from the gut into the peritoneal cavity. If the opening was small, intra-intestinal pressure was great, so that the total result was the same as if a larger opening obtained. To wait for shock to pass simply means the allowance of time for the spread of the infection and the development of a condition rendering subsequent cure more and more difficult. The aim should be to anticipate shock, and by so doing give aid while the infection is still confined to the narrowest possible area. In many cases there is a period of a few hours immediately following the perforation during which things seem to remain almost in statu quo. The tension within the bowel is momentarily relieved; sometimes the little opening is for the moment closed by a fringe of omentum or a friendly neighboring coil of intestine, and the condition only begins to increase after the intestinal tension is restored or a peristaltic wave has detached the tissue lying over the opening. This quiescent period is the surgeon's opportunity. It is the operation's safety period, and when once passed, the dangers are greatly increased. Operations done at this time may possibly find a beginning peritonitis from infection through the still intact base of an ulcer. This base being found suspiciously thinned could then be enfolded and closed over by a row of sutures. That a localized infection may result from contagion through a thin and altered base of a typhoid ulcer is now generally admitted; and that even a fatal general peritonitis may result from such a base, and without macroscopical perforation is proved to be true by the Munich autopsies, where peritonitis was present without perforation in 2.2 per cent. of the cases. Recovery from perforation of the small intestine not closed by the surgeon is extremely uncommon. The experience gained by surgeons who have opened the abdomen and failed to find any perforation, although in some instances the symptoms present were fairly definite, has developed a doubt as to the correctness of the diagnosis in cases afterwards recovering without operation or abscess formation. This idea is put very strongly by Fitz in the following language: "Since perforation of the intestine in typhoid fever may take place without any suggestive symptoms, and since suggestive—even so-called characteristic—symptoms may occur without any perforation having taken place, it must be admitted that recovery from such symptoms is no satisfactory evidence of recovery from perforation." There is the best possible reason, then, for interfering, if the physician thinks a perforation has occurred, because by so doing he gives the patient the only chance there is of recovery. Operations in the past have been too frequently undertaken, not to close a perforation and to cleanse the limited area of infection, but to relieve as far as possible a developed more or less septic perforative peritonitis, the surgeon in such cases setting himself an almost impossible task. Experience in the sequelæ of appendicitis has taught him that the infection from the ileum is no less virulent than from the appendix, while the patient is in an infinitely less favorable condition to resist the general toxemia. A few cases of infection, limited and resulting in abscess formation, have been reported, some of them have recovered, some of them have died. To trust to the limitations of infection is a reckless attitude for the medical or surgical attendant to assume. He holds that early operation anticipates shock in most instances, anticipates perforation or rupture of a suppurating mesenteric gland in a few instances, and may be in time to relieve the conservative adhesion of omentum or other serous surface before it is forcibly separated by peristaltic or intra-intestinal pressure. He is sustained in this view by Mikulicz, who said at Magdeburg in 1884, "If suspicious of perforation, do not wait for an exact diagnosis and for peritonitis to develop to a pronounced degree, but, on the contrary, immediately proceed to an exploratory operation, which, in any case, is free from danger." Early operation should certainly save those that could get well without operation and some others that might be lost by delay.

Relapse in Congenital Dislocation of the Hip.—Successful reduction is generally possible in those under ten years, but some relapses after successful reduction may occur, writes E. H. Bradford (An. of Gyn. and Ped., Nov., 1902). Why a relapse should follow after the head has been well placed in an acetabulum of proper depth is not well understood. There may be anomalies in the shape of the head or of the socket but the usual causes are: (1) Folding of the capsule in the acetabulum before the reduced head; (2) insufficient stretching of the soft parts, especially in lower and inner portion of capsule; (3) relaxed condition of capsule and muscles, including faulty attachment of the psoas; (4) twist in the neck of the femur. Such conditions should be corrected by the surgeon.

Drainage.—We have been playing battledore and shuttlecock with drainage for many years, but few of us have practised it with unvarying confidence from the beginning of our trying and painful experience in pelvic surgery, says Joseph Price (Am. Jour. of Obstet., Nov., 1902). The English and Continental operators of prominence, with long series of operations with low or "nil" mortality have all practised one or more methods of drainage, they have all recognized that, aside from the pleasing primary results, they have minimized post-operative resulting complications. A goodly number of operators, doing fairly good work by the suprapubic route, condemned or partially neglected drainage. Some of them never learned, and never will learn, how to handle drainage well. After abandoning the suprapubic route, they were placed in the uncomfortable position of admitting that drainage was doing what they had refused to obtain by suprapubic surgery. The operators doing suprapubic surgery in pelvic suppurations and all forms of appendicitis must possess 33 vertebræ. It is hard and complicated work; it requires and demands prolonged apprenticeship, as the surgery is important and the toilet extensive, and drainage always vital. You can save about everything with drainage, and the mortality will be large without it. The more progressive and successful specialist, doing painstaking operations in every detail, where filth or complications or adhesions were found to exist, practised most extensive sponge-packing or operative drainage. The modern operator does the same by his operative drainage or by his gauze pack or dry operation.

Rodent Ulcer of the Face, Tuberculous Adenitis and Pulmonary Tuberculosis.—The association of these three conditions in a case seen in B. Auché's (Jour. Méd. Bordeaux, Nov. 2, 1902) personal practice is made the subject of an interesting paper in which the author emphasizes the fact that notwithstanding the existence of the ulcer for a period of 20 years, there was no trace of epitheliomatous tissue in the cervical or submaxillary glands; this being regarded as an additional proof of the author's idea that epitheliomatous involvement of the ganglions is of rare occurrence in rodent ulcer. An illustration of the not infrequent association of tuberculosis and epithelioma is seen in the occurrence of tuberculous adenitis and pulmonary tuberculosis in the same patient coincident with the ulcer.

Surgical Treatment of Epilepsy.—Concerning surgery as applied to epilepsy, R. Park (Am. Med. Nov. 22, 1902) states that epilepsy is the last disease which should be indiscriminately operated. In judicially selected cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medicinal treatment. Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of irritation and the destruction of paths of conduction which convey disturbing influences. In each case we must decide as to the operative method by which we may best meet these indications. In order to obtain the best results, patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention. Operation, when indicated and undertaken, should be regarded as a first measure, to be followed, and often preceded, by others, looking to a correction of all faults of diet, of elimination, etc. Long-continued attention to these matters is the price of eventual success. In those cases characterized by blanching of the face, when the seizures can be warded off by amyl nitrite, the propriety of an exsection of the cervical sympathetic may be considered.

Gastro-Enterostomy.—The flow of bile into the stomach along the proximal limb of the loop of jejunum, which is the means of anastomosing the stomach and small bowel in this operation, has constituted the great element of danger of this special procedure from the days when union between these viscera was first undertaken. With the view of checking all danger of this "viscious circle," as it is called, G. R. Fowler (Ann. of Surg., Nov., 1902) had devised the following means and adopted it because it is not only adequate, but does not lengthen the procedure to any appreciable degree. It consists, in brief, of first securing a communication between a loop of the jejunum and the stomach, then an entero-enterostomy between the afferent and efferent portions of this loop, and finally, obliteration of the lumen of the afferent loop between the two points of anastomosis. He has selected the simplest and most rapid method of performing gastro-enterostomy, and added to it a procedure which occupies but a minute or two, and yet absolutely precludes the possibility of direct intra-communication between the stomach and the afferent loop. This step in the operation is accomplished by passing a No. 20 silver-wire two or three times around the afferent loop at the point selected, and drawing upon the turns sufficiently to occlude the lumen without strangulating the wall of the intestine. The ends are twisted together, cut short, and the ends rolled into a flat coil in such a manner as to bring the cut ends in the coil, thus guarding against subsequent injury to the surrounding structures.

Firm Traumatic Edema of the Back of the Hand and Feet.—It will be interesting for many surgeons to note a rare condition, apparently not previously described, which Vulliet (C'blatt f. Chir., Oct. 25, 1902) calls Hard Traumatic Edema of the Back of the Hands and Feet. It is caused, he says, by a distinctly localized blow upon the back of the hand, or by a rapid, violent dorsal flexion of the hand. It manifests itself in the early days by a swelling of the hand and foot dorsally, to the greatest degree around the bases of the fingers and toes. During such an establishment of this disease, the swelling is hard and elastic, but the impress of the finger does not remain, that is, there is no "pitting." The back of the hand is like an elastic cushion over which the skin cannot be seized or folded. There are no signs of inflammation and no ecchymosis. On the other hand, a free crepitus is palpable. The soles and the palms are normal, X-ray pictures showing the bones uninjured. Pressure is painful. Active and passive motion in the fingers is hindered and often very painful, chiefly in overextension. The thumb always escapes. The course and termination are of especial interest. To the physician who watches the case from beginning to end the swelling will be found resistant for a long time, sometimes for between eight and 12 weeks, sometimes longer. Then there is either a hard, well-defined mass or a softening over the bones, which may closely simulate an old injury, fracture, or chronic inflammation of the bones. Although the hand may be used before the swelling has entirely disappeared, it is perhaps better not to allow the patient to use it. The pathogenesis is not yet fully fixed, because direct examination of the anatamo-pathologic conditions is impossible. Perhaps there is a diffuse fibrous exudate between the true skin and the underlying parts, which is very slowly absorbed, and may indeed, in some cases, become organized and remain as a true fibrous thickening. The differential diagnosis lies between inflammatory edema following infection, fracture of the metacarpal bones and subcutaneous hemorrhage. These three conditions are so well known that the points of differentiation need hardly be mentioned. The treatment consists solely in warm baths with pressure by bandages. Massage, strange as it may seem, appears to make the condition worse.

Hypertrophic Tuberculosis of the Intestine.—When tuberculosis invades the abdominal cavity, it usually attacks, for reasons not yet definitely fixed, the peritoneal lining of the cavity and covering of the viscera rather than the viscera themselves. A form, however, which invades the intestines, called hypertrophic tuberculosis of the intestines is described by H. F. HARRIS (Ann. of Surg., Nov., 1902) and its symptoms given in the following terms: The irregular character of the clinical manifestations of this affection makes it necessary to describe separately its peculiar features (*a*) during attacks when the patient suffers from the symptoms of intestinal obstruction and (*b*) the intervals between them. (*a*) The symptoms observed during the attacks have been very similar in all instances. Of these, colicky pains are the most frequent, occurring to a greater or less degree in all instances. In a considerable number of cases constipation has been observed during the beginning of the attack, this to be quickly followed by diarrhea; blood has been found a few times in the stools. During the attacks, borborygmi are almost invariably observed, there being often a very loud, gurgling noise, that can be heard at considerable distance from the patient. At these times the movements of the intestines may be easily felt, and, in many cases, clearly seen. Vomiting is also a symptom that is quite common, being in extreme cases fecal in character. The abdomen is commonly swollen, and palpation generally reveals the presence of a tumor which is in the region of the ileo-cecal valve in a majority of cases. These swellings offer considerable resistance to the hand, but are slightly movable, and are usually quite tender. In all cases where the disease is suspected the presence of a tumor is of great diagnostic importance, the clinical picture of the affection being incomplete without it. In addition to the symptoms that are more directly referable to the diseased intestine, anorexia, rapidity of the pulse, and irregular elevation of the temperature are quite common. In a number of instances the patients have suffered from pulmonary tuberculosis. As complications, hemorrhoids have been observed several times, two of the patients had floating kidneys, and convulsions have also been noted in one or two instances. (*b*) In the intervals between the attacks the patients may be in fairly good health, though in a vast majority of instances they suffer from digestive disturbances, sometimes accompanied by vomiting, and pains of a colicky character are frequently complained of. These pains may come on at intervals of months, or may be quite constant, and as the time is approached when a severe attack is beginning they may be almost continuous. At these periods constipation is the rule, but frequently alternates with diarrhea. Just before a severe attack, the abdominal tumor is generally quite pronounced. The symptoms may exist in a mild form for a long time without exciting suspicion on the part of the patient that he is suffering from a grave malady. In one instance, recorded by König, the disease had existed nine years before a physician was consulted. As far as the prognosis and treatment are concerned, he states that medical treatment can, of course, be of no avail in this malady, an operation being absolutely necessary in order to effect a cure, or even to prolong the patient's life. The statistics, as regards operative interference are, upon the whole, encouraging—60 cases have been cured and four improved out of a total of 88 operated upon.

MEDICINE.

Meningococcus Septicemia.—Marx is inclined to regard epidemic cerebro-spinal meningitis due to the meningococcus of Weichselbaum, as a blood infection having the tonsils as point of entrance and the meninges as the microbic seat of election. Without accepting this view unqualifiedly, H. SALOMON (Berl. klin. Woch., Nov. 10, 1902) finds reason to believe that the infection is at least at times septicemic in character. Thus in a woman of thirty-two years who fell ill with chilly sensations, fever, dizziness, slight enlargement of the spleen and herpes labiales, there appeared after several days an eruption which strongly suggested a septic exanthem and led to a blood culture. Bouillon and agar cultures showed the presence of the meningococcus of Weichselbaum. A prolonged remittent fever followed, the ordinary daily fluctuation being from 36° to 40° C. During the third week a slight subconjunctival hemorrhage was noticed. The cutaneous eruption did not cease with the first impulse, but developed repeatedly new spots, macular, papular, petechial and in one or two places even pronouncedly hemorrhagic. General cutaneous hyperesthesia was a marked feature during the seventh week. During the eighth week epileptiform convulsions suddenly occurred. Stubborn attacks of vomiting now appeared and cervical rigidity for the first time became pronounced. Lumbar puncture during the ninth week showed an initial pressure of 280 to 300 mm. water; after removal of 20 c.c. of cerebro-spinal fluid the pressure fell to 100 mm. Microscopically the cloudy fluid obtained by puncture appeared rich in cells, and the meningococcus intracellularis was observed. The cervical rigidity was undiminished after puncture; opisthotonos developed, and twitching of the facial muscles was noticed. The patient complained chiefly of intolerable headache and frequent vomiting. During the tenth and eleventh weeks the temperature was not so high as previously; hallucinations occurred, with renewed cutaneous eruptions. Marantic edema was a later phenomenon. Notwithstanding the severity and long duration of the disease the patient was discharged in the fifth month of her disease, on the road to recovery. Salomon describes in detail the cultural experiments practised with the blood obtained from this case. The general features of the case resemble closely those of a case described by Osler, but in the latter case the patient died. Jäger cites cases in which the meningococcus was obtained from the spleen, kidneys, and pericardium, showing the existence of the bacterium in the general circulation. Perhaps the most interesting feature of Salomon's case is the fact that an examination of the blood showed the presence of the meningococcus many weeks before the germ established itself in its favorite locality; during the initial period of septicemia the development of meningitis was predicted and confidently awaited.

Recurrent Parotitis Following Recurrent Attacks of Appendicitis.—The association of parotitis with disease or derangement of the organs of generation is clinically familiar. Paget collected 101 cases of parotitis, and among these 18 were ascribed to disease of the alimentary tract. A case of parotitis described by D. F. JONES (Bost. Med. and Surg. Jour., Nov. 20, 1902) was apparently due to appendicitis. The patient was operated upon for appendicitis abscess ten days after the onset of symptoms. Two days later the left parotid became swollen and painful; these symptoms continued for five days and then subsided. The patient developed a second attack of appendicitis one year later. Again the abscess was drained, and 48 hours later the right parotid became painful and swollen, followed in two days by involvement of the left. A third attack of appendicitis occurred and the appendix this time was removed. The patient suffered a third attack of parotitis, involving both glands. The symptoms were comparatively mild; the temperature at its highest ranged between 100° and 101° F. Suppuration did not occur in this case; but it is of interest to note that of 78 cases, described by Paget, 45 went on to suppuration while only 33 resolved.

Primary New Growths of the Pleura.—On account of the rarity of this condition four cases have been reported by F. Delafield (Med. Rec., Nov. 15, 1902). They are probably endothelial in origin, beginning in the lymphatics of the pleura. The cells are greatly increased in number and the lymphatics multiplied, so that we have innumerable tubules running through the growth filled with endothelial cells. The inflammatory changes in the pleura are so great, however, that the real character of the lesion is usually overlooked for a time. There is an exudation of fibrin and serum, the latter well marked, as a rule, and containing a little blood. The story of invasion, the behavior of the patient and the physical signs are those of pleurisy with effusion, but the bloody serum and low temperatures are suspicious. Later, the loss of strength and the rapid decline may lead to the correct diagnosis.

Effect of Roentgen Rays Upon Living Tissues.—Many suits for damages on account of X-ray burns have been instituted during the past few years and undoubtedly inexperience on the part of the manipulator has frequently been the cause of the unfortunate results. Sufficient information has now been obtained in regard to the action of these rays so that bad burns are even more inexcusable than previously and no one can now afford to attempt regular treatment with such an appartus unless he is thoroughly familiar with the peculiarities and possibilities of this method of treatment and the idiosyncrasies of his patient. J. Rudis-Jicinsky (N. Y. Med. Jour., Nov. 15, 1902) has made a series of experiments upon guinea pigs to determine, if possible, the nature of this action and he has found a very strong electro-chemical agent which may even cause extensive degenerative changes in the entire gray matter along the posterior tracts. Microscopical examination of the destructive process, or "so-called burn" showed a special inflammatory process with a development of fibrous tissues, the walls of the blood vessels, especially the interior, were thickened and the lumina contracted. The superficial nerves were destroyed and thin layers of necrotic tissue were present. One possesses, therefore, in the X-ray a strong irritant which may deeply penetrate the tissues and produce changes which depend probably upon these factors: (1) the condition of the tissue cells, that is, the amount of resistance which the rays will encounter; (2) the amount and intensity of the rays, and (3) the character of the rays. It, therefore, happens that, since the cells of malignant growths and most abnormal processes possess less power of resistance than the normal cells, one may, by intelligent and systematic irritation, cause a specific electro-chemical inflammation which will result in degeneration, absorption and even total disappearance of malignant growths, often without any apparent sloughing. To protect healthy tissues lead is the safest and best guard and may be conveniently used in the form of tin-foil. This should be covered by a single layer of sheet rubber—on side of tube—to prevent the tin-foil from becoming charged with a current by induction. Satisfactory results cannot be obtained unless the operator is thoroughly acquainted with the capacity of his apparatus and each individual tube. Each patient should be treated very carefully during the first two weeks to determine whether he possesses any idiosyncrasy to the rays. The length of exposure depends not so much on the time during which the tube is in action as on the actual time of best X-ray production as tested occasionally by the fluoroscope.

Acute Syphilitic Nephritis.—Several observers have noted that acute nephritis may occur as one of the earliest manifestation of a syphilitic infection. Another case is described by Waldvogel (Deut. med. Woch., Oct. 30, 1902) in which after three weeks, edema ascites and hydrothorax followed the appearance of condylomata and painful throat lesions. The urine was scanty, contained considerable albumin and numerous hyaline and granular casts. The patient, a man of thirty-one, was given daily inunctions with 5 gms. of blue ointment and the symptoms rapidly disappeared, the urine returning to the normal, after treatment had been continued for seven weeks.

Tetany in Gastric Disorders.—The relation of tetany to gastric disorders is discussed by L. W. Strong (Bost. Med. and Surg. Jour., Nov. 27, 1902), who regards the condition of tetany as a symptom-complex, indicative of increased nervous irritability, probably central in location. The muscular spasm, affecting the arms in a characteristic manner, is the chief factor in diagnosis. The spasm is a reflex phenomenon, set loose by some mechanical stimulation, such as vomiting or lavage, with possibly a direct action in the case of pressure and of electrical stimulation of peripheral nerve trunks. The spasm cannot be produced without antecedent nervous irritability. The theory of intoxication has been advanced to explain the underlying nervous hyperirritability, but the etiology is not really known. Among the cases described by Strong, one ended fatally. In this patient a stomach-tube was introduced in a case of suspected carcinoma ventriculi; the spasm began while the tube was in situ, and the patient remained in a tetanic condition and died several hours later. The most complete descriptions of tetany are given by Continental writers. Frankl-Hochwart defines tetany as having as its chief symptom tonic, intermittent, bilateral, usually painful contractions, usually without alteration of consciousness, affecting chiefly the upper extremities, producing the writer's hand or obstetrician's hand, often affecting the lower extremities, less often the muscles of the larynx, face and jaw, while in single cases the bladder and diaphragm have been affected. Sensory symptoms occur mostly in the form of paresthesiæ and pain; the special senses are unaffected. Of special diagnostic value is the fact that, in the intervals, pressure in the brachial plexus starts the spasm (Trousseau's sign). Electric irritability for the galvanic current at least, is increased (Erb's phenomenon). Almost constant is mechanical hyperexcitability of the motor nerves (Chvostek's phenomenon). In the latent or "tetanoid" form spontaneous spasm is absent but Trousseau's, Erb's and Chvostek's signs are present. But Strong, after a review of the literature, insists that no symptom is of diagnostic value other than the characteristic muscular spasm of the arms.

Exophthalmic Goiter.—A case of this disease presenting some unusual features is reported by C. S. Potts (Phila. Med. Jour., Nov. 22, 1902). The patient, a coal-miner, aged thirty-nine, in addition to the usual symptoms, showed a marked ankle clonus, which disappeared as his condition improved, and suffered from attacks of either partial or complete unconsciousness, marked improvement following the use of sodium phosphate and the treatment of a chronic hypertrophic rhinitis. This case seems to show that a well-developed ankle clonus may be present where there is no organic disease of the cord. The author does not believe that the clonus was of hysterical origin, but was due to some functional disturbance of the cord probably caused by the poison of the disease. The attacks of apparent unconsciousness seemed of the hysterical type as they were accompanied by other hysterical stigmata, *i.e.,* reversal of the color fields. Two of the attacks, however, were attended with complete unconsciousness, which came on after undue exertion and were followed by more active symptoms of the disease. The improvement following the treatment of the nose and throat condition leads the author to suggest the routine examination of these localities in all cases of exophthalmic goiter.

Identity of Human and Bovine Tuberculosis.—Another contribution to the knowledge of this subject is made through the work of A. CIPOLLINA (Gazz. Osped., Nov. 9, 1902). In order to determine the possibility of infection with bovine tuberculosis through ingestion of infected milk, the author administered to a healthy monkey, in whom the tuberculin test was negative, daily portions of milk infected with bovine tuberculosis during a period of one month; at the end of which time the animal commenced to decline, lost flesh and developed a cough; and at the end of three months, died of tuberculosis. Autopsy showed a tuberculous peritonitis, tumefaction and caseation of the mesenteric glands, liver and spleen infiltrated with tuberculous nodules, the latter being much increased in size. A few superficial nodules were seen in the external coat of the gastro-intestinal tube, but the mucosa of both stomach and intestine was entirely normal with the exception of a few hemorrhagic spots in the colon corresponding to groups of mesenteric glands which had adhered to the intestinal wall. Some nodules were seen in the kidneys, and the lungs showed tuberculous infiltration. The author believes the experiment to be not without value in that it shows a generalized tuberculosis, the origin of which in infected milk is unquestionable, and that the tubercle bacillus may pass through the intestinal mucosa without giving rise to primary lesions in that locality.

The Diseases of Heart Muscle.—During the era of the rise of physical diagnosis, according to D. GERHARDT (Würzb. Abhand., Vol. 3, No. 2) many a case of myocardial disease has, on account of a systolic murmur, been diagnosticated as valvular disease and treated accordingly. Nowadays the subject of cardiac muscle is so much in the foreground that even the physical evidence of a valvular lesion appears to be of minor significance in the presence of a muscle affection. The conviction is gaining strength that in every case of valvular disease the condition of the heart muscle is the fact of greatest importance; that the prognosis and therapy depend more upon the capacity of the heart muscle than on the kind of valvular affection. Time has wrought many changes in the knowledge of the pathology of myocardial disease. According to the investigations of von Romberg, acute non-purulent myocarditis is more common than formerly supposed. It is found most frequently as a sequela of typhoid, scarlet fever and diphtheria. Greater emphasis is being made upon the interstitial changes, proliferation of leucocytes, formation of new connective tissue, particularly in the subpericardial and subendocardial tissues; the alterations in the parenchyma are recognized with much greater difficulty. It has also become doubtful whether fatty degeneration of the muscle-fibers represents an inflammation going hand in hand with functional disturbance of the contractile elements; Krehe has shown by quantitative chemical analysis that the fatty content of muscularly strong hearts can be at least as large as that of muscularly weak ones belonging to the so-called category of fatty degeneration; moreover, Hersenfeld and Fenyvessy showed in experiments on animals that fatty degeneration following phosphorus poisoning leaves considerable reserve-force to the heart. A still greater blow has been struck, the old conception of chronic myocarditis. That form known as myocarditis fibrosa, which has been considered the type of chronic inflammation of the heart, is being removed more and more from the domain of inflammation to that of degeneration. With the exception of the rare cases of syphilitic new growths of the heart, there are to be easily recognized mural swellings appearing particularly in the left ventricle and septum, much more clearly circumscribed in the papillary muscles, almost always the result of deficient blood-supply accompanying disease of the nutrient arteries. On the other hand the Leipsig school sought to establish another form of myocarditis, mostly dependent on acute processes, which develops principally from acute interstitial myocarditis or takes its origin from inflammatory processes in the neighborhood, *i.e.,* chronic endocarditis or pericarditis. Another comprehensive group of cases remains in which the clinical history points with great certainty to a heart disease, but in which autopsy reveals a dilated and often at the same time hypertrophied heart, without macroscopic or microscopic alteration of the cardiac musculature. The damage to the heart is easily recognized in the dilatation; yet how this results from the condition of the muscle can not be discovered. In the majority of cases accompanying this dilatation there is hypertrophy of the heart, sometimes equally on both sides, sometimes more on one, and sometimes on one side alone. In the cases of idiopathic hypertrophy it seems that the dilatation is the primary and the hypertrophy the secondary change. The fully developed clinical picture of all these cases presents the well-known symptom-complex of cardiac insufficiency—palpitation, dyspnea, cyanosis, hepatic enlargement, edema, ascites, anomalies of cardiac rhythm, increase (rarely decrease) in frequency of the beat, often arrhythmia, congestive bronchitis with pigmented cells in the sputum, predisposition to infarcts (more frequently in the lungs than in the greater circulation). Over the heart there is increased dulness, the apex is displaced outward and the pulsation is most frequently increased. The cardiac note is sometimes pure, sometimes accompanied by a systolic murmur; the aortic and pulmonic second sounds are often, in spite of an insufficiency of the ventricle, accentuated. In the majority of cases dyspnea and palpitation are the first symptoms; for a long time these are slight and gradual, sometimes only in the course of years, they increase until at last a stage is reached in which dressing or going about the room brings on dyspnea and palpitation. With the latter there occurs in most cases an increase in frequency of the beat. Swelling of the feet occurs at first at night, then continually. Catarrhal symptoms appear and finally there is presented the fully developed sad condition of cardiac insufficiency, in which the patient continually struggles for air and to which condition he at last succumbs. In other cases edema is the first symptom. Sometimes pleural effusion is the first symptom of cardiac weakness. In other cases the first symptoms are the congestive manifestation in the liver and digestive organs. Only in a small number of cases is congestion of the liver sufficient to produce symptoms from the beginning; in these there is a feeling of fulness and pressure after eating. The cases in which hepatic symptoms are the first, run a slow course with good prognoses. Of much graver significance is the sudden appearance of gastro-intestinal symptoms. Rarely dizziness is the first symptom of myocardial disease. Quite commonly with the first appearance of cardiac weakness there is a feeling of weakness and fatigue and the patients rapidly lose flesh. Relatively numerous are the cases in which the principal symptoms, dyspnea and palpitation, develop gradually out of the symptoms of simple bronchitis. To the group first described by Stokes belong the cases in which pneumonia, chronic bronchitis, and emphysema are combined with cardiac hypertrophy and dilatation, in which at autopsy one is in doubt as to whether the heart and the pulmonary disease are dependent on the same cause or whether one is dependent on the other. In contrast to all these gradually developing cases are those in which suddenly, while the patient is apparently in full health, an attack of severe distress opens the scene; sometimes it is urgent dyspnea, sometimes it is angina pectoris; most frequently it is a combination of the two. The cases of pure angina are unique, in that angina may be the only subjective symptom until death. The supposition that cardiac angina is the specific symptom of sclerosis of the coronary arteries, does not apply to this form. A sudden onset in apparent health occurs also in acute heart-strain. The latest writers deny the occurrence of acute cardiac dilatation in healthy hearts. The majority of cases of myocardial disease occur in the fourth and fifth decade; at this time arterio-sclerosis is the common cause, whether it affects the nutrition of the heart through the coronary arteries, or whether by general sclerosis of the systemic arteries it causes hypertrophy by increasing the work of the heart. The habitual use of alcohol is another great cause. Obesity and chronic diseases of the respiratory organs also lead to myocarditis. Hypertrophy of the heart as the result of continued overexertion is not as common as the earlier writings indicate; in considering the hypertrophy of lumbermen, blacksmiths, etc., the possible effect of alcohol cannot often be excluded. Relatively frequent are cardiac muscle diseases resulting from acute infectious diseases. In this connection particularly are diphtheria and influenza to be feared; the number of cases of cardiac insufficiency in the German Army increased markedly during an epidemic of influenza. Other causes of cardiac muscular affections are a general increase in the amount of blood, as indicated at autopsy by an abnormal vascularity of all the organs, and abnormal narrowness of the arterial system, as first taught by Virchow. The therapy of these diseases may be briefly stated. It includes careful hygiene, removal of the causative influences, restriction of alcohol, diminution of bodily exertion and rational obesity cures. The management differs not in general from that of other heart diseases. Light cases require rest, later methodical habituation to the former bodily tasks, above all absence of physical and psychical insults. The patient should cut down on alcohol, coffee and tobacco. Recently good results have been obtained from the use of simple, saline or carbonated baths and massage. Of medicaments digitalis is the best. The pharmacological experience that the digitalis preparations raise the blood-pressure has led many to formulate the rule that these drugs suffice only for those cases in which the blood-pressure is normal or lowered, but not for those in which it is raised. This last occurs (leaving nephritis out of the question) in cases of cardiac disturbance associated with arterio-sclerosis and in some cases of simple hypertrophy and dilatation. According to the author's local experience at Strassburg, this fundamental doubt as to the efficacy of digitalis in these cases is not borne out. Digitalis is recommended for all forms of chronic cardiac disturbance. The author uses small doses, 0.1 to 0.3 grams per diem, which, without disadvantage, can be given for weeks at a time. Strophanthus has the same effects and indications. As efficacious as is digitalis in chronic cardiac disease, just so uncertain is its action in acute myocardial trouble. Cardiac weakness during and after infectious diseases is at any rate better fought with caffeine, camphor and alcohol. Digitalis is contraindicated in purely nervous cases. Together with digitalis, or in light forms instead of it, iodide of potash should be employed in cases complicated with arterio-sclerosis; particularly light forms of angina and cardiac asthma are seen to disappear under its use. Against all acute exacerbations as well as against the asthmatic difficulties, caffeine and camphor should be used. The edemas are combated with caffeine and the theobromine preparations.

Three Uncommon Cases of Poisoning.—From nine grams (about 2½ fluid drams) of fluid extract of hydrastis, Friedeberg (C'blatt f. Inn. Med., Oct. 18, 1902) saw burning in the stomach, and later nausea, dizziness and syncope. There was headache, delirium, oppression about the heart, dyspnea, and a few hours later vomiting of a dark-green thick liquid. There was also great weakness, pallor, some cyanosis, heart-sounds feeble, pulse 46, temperature 97° F. The uterus was enlarged, tender, the cervix slightly dilated, and there was some bleeding from the genitals. The patient recovered in five days. The second case is that of a man who, in mistake for whisky, took two swallows of petroleum. Burning in esophagus and stomach followed, and through the night the patient drank much water. In the morning he had headache, loss of appetite, diarrhea, and prostration, and everything tasted of crude petroleum. Two days later the breath and urine still smelt of petroleum, and there was an acute catarrhal condition of nose, throat and stomach. The odor and taste of petroleum continued to bother him till the sixth day, and then suddenly disappeared.

The third case, reported by R. Neudörffer (C'blatt f. Inn. Med., Oct. 4, 1902) occurred in a gardener's wife from handling the twigs of Tsuga Douglasii in the making of wreaths.

Giantism and Acromegaly.—There is a growing number of records which indicate that acromegaly not infrequently follows giant development or even a period of excessive growth. In either disease there is little if any sexual desire, and when they attack women menstruation ceases. Both giants and those with acromegaly suffer with analogous pains in the limbs, spine and viscera and are easily fatigued. Polyuria and glycosuria are common in acromegaly, but have not been much sought in giantism. Visual troubles and headache are common to both conditions. Giantism, however, is essentially a disease of adolescence, while acromegaly develops in mature persons only, so Henry Meige (Arch. Générals de Méd., Oct., 1902) proposes the theory that there exists a condition due to excessive osteogenetic function, manifesting itself as giantism if the bones are still capable of lengthening, and as acromegaly if the epiphyses have become firmly united to their shafts. The cause of this perturbation of function can only be surmised at present, but certain it is that there is a marked relation between the osseous and genital development and that of the ductless glands, the thyroid in particular.

Malarial Ulcer of the Pharynx.—The patient of Galler (Russky Vratch, No. 41, 1902) was suffering for over two years from an ulcer of the pharynx. A general as well as microscopic examination of the secretion and small pieces of the local tissue showed absence of tuberculosis. There was no history of syphilis and the result of mercurial and iodide treatment was negative. Local treatment with different antiseptics, parachlorphenol and actinic light did not relieve the condition of the patient, until taking in consideration the fact, that the patient was previously suffering from malaria, Galler began to administer hypodermically quinine. In four weeks the ulcer healed. The author concludes that he had to deal undoubtedly with a case of a malarial ulcer of the pharynx and thinks it of great importance to always bear in mind that not only syphilitic and tubercular, but also malarial ulcers may appear in the pharynx.

Primary Tuberculosis of the Spleen.—The right diagnosis in this case was made only at the autopsy. The patient was brought to the hospital in a soporous condition and the physical examination revealed only an enlarged spleen and liver. Two days later the patient died. At the postmortem ROMANOFF (Russky Vratch, No. 41, 1902) found the spleen and liver covered with a large number of tubercles, which were microscopically perfectly typical and showed the presence of tubercle bacilli. As there was no sign of tuberculosis in any other organ and the tubercles in the spleen appeared a great deal older than in the liver, the author considers the case one of primary tuberculosis of the spleen, a diseased condition, which is extremely rare and not yet clinically defined.

HYGIENE.

Inefficiency of Fumigation.—All methods of fumigation have been discarded when formalin was introduced and almost absolute reliance was placed upon this. G. E. PFAHLER (Proc. of Path. Soc. of Phila., July, 1902) has, however, noticed epidemics of contagious diseases break out in the children's wards, which had been disinfected with formaldehyde gas, to which he could trace no contagion from the outside. He therefore tested the efficacy of a formalin candle which had been highly recommended. In the first experiment, culture of the staphylococcus pyogenes aureus were placed near the point of generation of the gas. All the cultures grew well. From the second experiment it was found that the ordinary germs found in rooms grew as well after fumigation as before. The same was the case when the gas was generated and passed through the key-hole for 13 hours. The fact that epidemics can be controlled seems to depend more upon the cleansing of the floor and walls than upon any gaseous disinfectant. Though formalin is the best disinfectant known, there is need for a more satisfactory method of application, which would mean an apparatus capable of generating the gas 10 times as fast or in more concentrated form.

Clinical Thermometer in Quarantine Inspection.—It has been found that a visual examination and a history from the patient are by no means always sufficient to detect mild or beginning cases of an infectious disease among passengers and crew of incoming vessels. The desire to deceive the officers at that time will make many patients appear temporarily well and furthermore the disease may be of such an insidious character that it is not recognized by the patient himself. A. H. DOTY (Med. Rec., Nov. 1, 1902) has learned to rely largely upon the temperature which the person shows, for there can be very little deceit practised by the patient in vitiating this record, if proper precautions are taken by the physician. It is true that a person's temperature in ordinary health may vary considerably, depending upon the time of day, exercise or excitement, but it has been found after thousands of examinations that the temperature in health seldom goes below 97° F. or above 99.5° F. If a passenger on a vessel from a suspected port shows a temperature above 99.5° F. he is sent to the detention hospital for further observation, and although some are able to leave within a day or so, having shown no further developments, yet this seems to be a reasonable and valuable limit.

THERAPEUTICS.

Serum Therapy.—Under this heading M. ZUNIGA (Gac. Méd. de Costa Rica, VI, No. 12, 1902) sets forth the merits of sodium bromide and gelatin, combined with artificial saline serum, as applied to obstetric practice. He has found sodium bromide, administered hypodermatically in the proportion of sodium bromide 5 gms., artificial saline serum (10 in 1,000) 500 gms., most serviceable for the control of pain in parturition, and for abortion of eclampsia. The use of gelatin for the control of hemorrhage has given good results in his hands; and in those cases in which the history points to probable hemorrhage during parturition, as in albuminuric or hemophilic cases, the author makes foods, of which gelatin is the basis, the chief part of the diet during the last two weeks of pregnancy; and when labor sets in, he gives a hypodermic of gelatin 25 gms., artificial saline serum (10 in 1,000) 500 gms. By this means, postpartum hemorrhage has been averted in those who had so suffered in previous pregnancies. The gelatin serum, with a small amount of carbolic acid, is also used by Zuniga, as a hot intra-uterine douche (five per cent.) when postpartum hemorrhage does occur; the douche being followed by a vaginal packing of cotton saturated with the gelatin serum.

Enuresis and Silver Nitrate.—Success has attended the instillation of silver nitrate in the urethra by C. DELFOSSE (Jour. Sci. Méd. de Lille, Nov. 1, 1902) in several cases of nocturnal enuresis, whch failed to respond to the belladonna treatment. After preliminary lavage, 10 drops of silver nitrate (one in 30) were used; the amount being increased to 15 or 20 drops in those cases in which a second application was necessary. A third treatment was required in but one case.

Sclavo's Serum and Malignant Pustule.—Favorable results are reported by F. MELONI (Gazz. Osped., Oct. 26, 1902) from the use of this serum in two cases of malignant pustule, in which other remedies had failed of effect. Subcutaneous injection of 40 and 50 cm. of the serum brought about prompt amelioration and subsequent cure in both cases, which had shown the gravest symptoms.

Concerning Adrenalin.—In ophthalmological work adrenalin chloride has proved a valuable remedy in E. LOPEZ'S (Rev. Méd. Cubana, Nov. 1, 1902) experience. In cases of injected conjunctiva, the doctor states that upon instillation of one drop of adrenalin chloride (1 in 1,000) the eye at once regains its normal appearance. The hemostatic property of the substance has proven most valuable in operative work, including operations for pterygium, small palpebral tumors, iridectomy for glaucoma and enucleation of the eye under chloroform; little or no hemorrhage occurring when adrenalin is used. For patients' own use in congestive affections of the eye, the author prescribes an eye-wash of adrenalin chloride, one in 5,000, or in severe cases, one in 2,000, four times daily. Its application to the mucosa is devoid of pain or discomfort.

Comparative Effects of Iodothyrine and Electricity in Raynaud's Disease.—Two cases subjected to thyroid treatment and subsequently successfully treated with the continuous electric current as Raynaud advises, are reported by BALTUS (Jour. Sci. Méd. de Lille, Nov. 8, 1902), in one of which thyroid treatment produced no effect and but a transitory effect in the other. Treatment by electricity is therefore deemed the only desirable method.

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SATURDAY, DECEMBER 20, 1902.

INTERNATIONAL AGREEMENT ON THE PREPARATION OF POWERFUL DRUGS.

THE desirability of unifying the various national pharmacopœias, at least so far as concerns powerful and dangerous drugs in international use, has long been recognized. Such unification was proposed by an international body of pharmacists which met in Paris in 1867, and the scheme has repeatedly received the sanction of similar bodies in later years. It remained for the enlightened government of Belgium, acting at the request of the Belgian Royal Academy of Medicine, to influence nearly all the governments of the civilized world to participate in a conference which had for its object a larger degree of pharmacopœial uniformity. This conference was held in Brussels a few weeks ago.

Anyone who has taken part in a gathering of this character will appreciate the obstacles which confronted the Brussels Conference. Pharmaceutical habits give rise to methods of thought which become as fixed as the everlasting hills and ordinarily one would expect nothing less than a mental earthquake to dislodge them. And the National Pharmacopœia—in every country except our own a governmental institution—what a bulwark against dangerous fraud, what a fount of conservative orthodoxy! Yet the Brussels Conference, thanks to the admirable preparatory work of the Belgian Minister of Agriculture and Hygiene, and to the conciliatory spirit of the delegates present, was able to reach a number of important agreements, which will be embodied in the next edition of the pharmacopœias of 19 countries.

The Conference really began its work last spring, at which time Belgium submitted to each of the governments, which had expressed itself in favor of an *entente*, a list of the drugs the preparation of which seemed worthy of the attention of the Conference, together with a proposed international formula. These proposals only touched the more powerful drugs in international use, such as aconite, belladonna, colchicum, cannabis indica, digitalis, ipecac, hyoscyamus, nux vomica, opium, etc.; the provisional list comprised 72 preparations, but the number ultimately considered for unification was 42.

An initial difficulty arose on account of the fact that whereas in the pharmacopœia of England and that of the United States, the proportions of the substances entering into the composition of preparations are expressed in volume, in all other pharmacopœias weights are given. The Conference accepted the suggestion of Mr. MacAlister, a British delegate, that hereafter, whenever a quantity of liquid is expressed in volume, a volume shall be chosen which exactly corresponds to the weight of such substance as indicated in other pharmacopœias. Thus, whatever the mode of expression, the proportions of ingredients will be identical.

No agreement was arrived at concerning the dosage of active principles of drugs. The Swiss delegates proposed that the Conference adopt a fixed analytic method for the determination of dosage, but it appeared that various methods were in vogue in the different countries, and a comparative study of these methods could not be undertaken in the time at the disposal of the Conference. No agreement was reached, either, as to the manner in which the formulæ adopted by the Conference are to be incorporated in the several national publications; each country will determine for itself whether the revised international formulæ shall appear in the body of its pharmacopœia or in a supplement. The Conference decided that 70 per cent. alcohol is to be used hereafter in the preparation of tinctures of the heroic drugs; at present various strengths are given for different groups of tinctures even in a single pharmacopœia. Official opium is to contain, after a certain degree of desiccation, 10 parts of morphine per 100; any opium having this strength will be acceptable in pharmacy, and not merely the opium obtained from Asia-Minor, as proposed by certain delegates.

These few citations will suffice to indicate the nature of the decisions of the Brussels Conference. It is evident that an important reform has been inaugurated and that subsequent meetings to extend and perfect the work now fairly begun, will be more readily effected and easier to control. For his skilful, unostentatious and successful labor in this connection the Belgian Minister of Agriculture and Hygiene, M. van der Bruggen, deserves the thanks of the medical fraternity.

PRESIDENT ELIOT ON EDUCATIONAL NEEDS.

So PREEMINENTLY important is public education as a problem not only of economics, but quite as well of human happiness, that every authoritative, competent utterance on the subject is apt to be of exceptional general interest. President Eliot of Harvard University, as he has done before, expresses educational ideas which seem to be the highest obtainable wisdom on this phase of our current civilization. The address containing these timely propositions and entitled "The Needs of American Public Education," was delivered before the Rhode Island Institute of Instruction late in October last, and has been much quoted and discussed in our recent periodical literature, and certainly widely read by thinking men and women. There are certain suggestions contained in the address, however, which, because of their nature, merit special notice by members of the medical profession,—naturally the great teacher, always, of mankind.

President Eliot evidently realizes well what medically educated people have long recognized, that the average school-house, even in the wealthy cities, is not as healthful a place as it should be with our knowledge of physiology and bacteriology. The tax-paying public learns some things so slowly, although some other things so fast! Attention is called to the need of requiring that the woodwork in school-buildings should be reduced to a minimum, because more porous and less easily cleaned than other materials, and what is necessary "should be carefully constructed with reference to the facility of keeping it clean, just as the woodwork in the interior of a modern hospital is constructed." The inner walls of schools should not be absorbent, but, on the contrary, should resist both moisture and gases, and be capable of thorough cleansing, as should also the entire heating apparatus for school-buildings. "All flues, ducts, and boxes for the reception and conveyance of cold or hot air should be so built and disposed that their interiors can be cleaned." Large school-house yards are also urged, for cities, especially where fresh air and space for exercise are apt to be limited. These suggestions, though not new, need frequent repetition until they be acted upon by school-boards to the public benefit.

But an important proposal is made which, if not strictly new, is practically new so far as most places are concerned, namely that every large school demands the services of a skilled physician, to be connected with the school as a medical superintendent. His sole duty it should be, says President Eliot, "to watch for contagious disease, to prevent the too early return to school of children who have suffered from such diseases, to take thought of the eyes of the children lest they be injured in reading or writing by bad postures or bad light, to advise concerning the correction of remediable bodily defects in any of the children under his supervision, to give advice at the homes about the diet and sleep of the children whose nutrition is visibly defective, and, in short, to be the protector, counselor and friend of the children and their parents with regard to health, normal growth, and the preservation of all the senses in good condition. Such medical supervision of school children would be costly, but it would be the most rewarding school expenditure that a community could make, even from the industrial or commercial point of view, since nothing impairs the well-being and productiveness of a community so much as sickness and premature disability and death.

"As in an individual, so in a nation, health and strength are the foundations of productiveness and prosperity." This is good sense, good pedagogy, good economics, and would lead to great general benefit, not the least source of which would be that it would rapidly bring about the instruction of the people at large in hygiene and the broader principles of preventive and therapeutic medicine. Such appointments would provide competent physicians who would have a strong sense of responsibility for the welfare of a limited number of persons, thus allowing of actual and important benefits to those who most need this sort of care. The proposition cannot be met by the profession with too great welcome, both for the public good and for their own.

Other recommendations by this competent adviser are for better teachers and more of them; more outdoor instruction, for example, in geography and natural history; a pension for superannuated teachers; better superintendents; election of studies for pupils down to nine years old; more manual training, more drawing, more music; and a wide extension of the important and very useful vacation-schools.

All these things would require large additional expenditure of the public funds and what would justify this? In answering at convincing length this vital question, a question every tax-payer will vociferously ask, President Eliot goes easily into economics and shows thereby conclusively that education, the finest to be had, is *the very best investment any body politic can make;* that every dollar expended on the practicable education of a citizen returns many fold to him and to the State in earning capacity and in his value as an actual asset of his race. Add to this the additional happiness provided to the individual and the balance in favor is infinitely greater still. To promulgate and to strongly support such obviously wise suggestions is the physician's present privilege.

TYPHOID FEVER IN CHILDREN.

It seems to be very generally conceded now that typhoid fever may not only occur in children of tender years, but that the only reason why it is not noted so frequently as in adults is that infants are usually protected from the contagion by the greater care exercised with regard to the boiling, or at least pasteurizing, of all food and drink prepared for them.

Nursing infants are especially protected from the entrance of the germs of the disease, although it seems possible that these children are, if the mother has had typhoid fever within 10 years, rendered somewhat immune to the disease by the presence in the milk of certain protective substances derived from the immune maternal tissues. Ehrlich pointed out, some three years ago, that nursing guinea-pigs and rabbits do acquire, through the milk, a temporary immunity to certain diseases, with regard to which the mother had been rendered immune by gradually increased inoculations of virulent material. Abbott suggested, at the meeting of the Association of American Physicians two years ago, that this law probably applied to nursling infants also and accounted for the rarity of most infectious diseases, during the nursing period, on the principle of acquired immunity in the mother being temporarily passed on in the milk. This explanation is now accepted by all the best authorities in pathology and immunity.

In the Huxley Lecture on Immunity (see Medical News, Oct. 18, p. 734) Prof. Welch said that "It is an important function of the mother to transfer to the suckling through her milk immunizing bodies, and the infant's stomach has the capacity, which is afterward lost, of absorbing these substances in an active state. The relative richness of the suckling's blood in protective antibodies, as contrasted with the artificially fed infant, explains the greater freedom of the former from infectious diseases." These conclusions emphasize the necessity for advising mothers, as far as possible, to give their infants the opportunity to take advantage of all the protective qualities that they themselves have acquired by the costly experience of passing through infectious diseases. During an epidemic of typhoid fever especially (although this holds also, of course, for all other epidemics of infectious diseases) mothers should be advised not to wean their infants, since it will distinctly add to the danger of the acquisition of the infection.

With regard to the diagnosis of typhoid fever in children, the introduction of the Widal test has removed most of the difficulty. It is the general employment of this test in our large cities that has brought about the conviction that typhoid fever is not so infrequent, even in very young children, as was thought. The agglutination reaction is, especially in children, sometimes delayed until late in the affection and this may throw a veil of uncertainty over the absolute diagnosis, but in the very large majority of cases the test proves positive during the first eight days of the illness. In a certain number of cases, running a clinical course so like typhoid fever as to be very justifiably mistaken for it, the Widal test has proved persistently negative in adults as well as children. It has been the custom to class these cases as true typhoid fever, with the agglutinative power of the serum anomalously absent. A very definite impression is gaining ground now, however, that these cases are not genuine typhoid, but paratyphoid affections, due to a bacillus not unlike the Gaffky-Eberth bacillus, but distinct from it. This micro-organism is capable of producing an agglutinative property for its own cultures in the blood of the patient but not for those of other bacilli, even though they may seem to be closely related to it, by morphology at least.

The treatment of typhoid fever in the child is very much simplified by the fact that liquid diet serves much better than in the adult to keep up the strength, and this is after all the important element in prognosis as regards eventual mortality or the liability to complications. The temperature of typhoid fever in the very young is apt to be higher than in the adult, but there is the advantage that it is much more easily influenced by antipyretic measures. The full bath is seldom required and in fact needs to be watched carefully when used since subnormal temperature may be readily induced. Nervous symptoms develop more frequently in children and are more persistently bothersome. Antipyretic drugs are nearly always indicated for typhoid fever in children because they overcome the restlessness and prevent delirium. Children, even more than adults, when suffering from the disease must not be left alone, for they are very prone to get out of bed and expose themselves to sudden chilling of the body and to the danger of intestinal complications by excessive movement. During the first days of defervescence special precautions must be instituted in order to prevent children from obtaining unsuitable food surreptitiously. Their craving for food is often so great as to make their pleading irresistible. Mothers especially need the most absolute directions not to yield to their little patients. If any food is left where children can possibly get at it they will prove most ingenious to secure it.

In the case of children the need of the most stringent prophylactic regulations is obvious, if the spread of the disease is to be prevented. Children, even up to the age of six or seven, are liable to be uncleanly in their personal habits during the continuance of fever. The greatest care must be exercised then to prevent the dissemination of infectious material. This is especially true with regard to the urine. Most young children will need to use a diaper, or at least some extra clothing meant to prevent the soiling of the bedding around the loins. It is now a well-established fact that the urine of typhoid patients practically always contains virulent typhoid bacilli. There is much less repugnance, as a rule, to the handling of children's excretions and so ample opportunities may be provided for the contamination of the hands of attendants with infectious material. Mothers and nurses, then, must be warned specifically of the dangers involved and the most scrupulous cleanliness must be insisted on. All cloths that have been in contact with the patient, no matter how apparently little soiled, must be placed in a strong antiseptic solution or thoroughly boiled before being handled by those who are not in immediate attendance on the sick-room.

The complication most frequent in children is severe typhoid bronchitis. This may even take on the character of a broncho-pneumonia. It is more frequent in hospital practice than among private patients and is evidently dependent to a considerable extent on the purity of the air breathed. It is much more important that the air of the sick-room should be frequently changed than that it should be kept at an invariable temperature. The bronchitis is due not to catching cold but to the specific action of typhoid bacilli upon pulmonary tissues reduced in vitality; careful and minute directions must therefore be given for the airing of the sick-room. Cold air will no more harm the patient while in a fever than will the cold bath, though the effect of both must be watched carefully so as to avoid any tendency to collapse. The fresh outer air may be used as an antipyretic with proper management and it will serve as the best prophylactic against pulmonary complications, or any subsequent development of tuberculosis which is sometimes a dreaded sequel of typhoid fever.

ECHOES AND NEWS.

NEW YORK.

Appointment of Dr. Leszynsky.—Dr. William M. Leszynsky has been appointed Neurologist to the Lebanon Hospital.

Academy of Medicine.—The following officers were elected last week: President, Andrew H. Smith, M.D.; vice-president, M. Allen Starr, M.D.; treasurer, Herman L. Collyer, M.D.; trustee, Arthur M. Jacobus, M.D.; member of the Committee on Admissions, J. Milton Mabbott, M.D.; member of the Committee on Library, Joseph Collins, M.D.

New York Neurological Society.—The election of officers resulted as follows: Dr. Pearce Bailey, president; Dr. J. Arthur Booth, first vice-president; Dr. Frederick Peterson, second vice-president; Dr. B. Onuf, recording secretary; Dr. F. K. Hallock, corresponding secretary, and Dr. G. M. Hammond, treasurer.

Clinic for the Treatment of Trachoma.—At the request of Commissioner Lederle of the Department of Health, the trustees of Bellevue and Allied Hospitals are preparing to establish a clinic for the treatment of trachoma. This disease is prevalent among the school children of the city, and there is at present no city hospital with the facilities for its treatment. The various private hospitals of the city, devoted to the treatment of the diseases of the eye, are overwhelmed with the number of cases that come to them for treatment, having been excluded from the schools by the inspectors of the Health Department. These institutions also, are for the most part, unprovided with wards in which the patients may be kept over night after they have undergone operation. The operation usually practised consists in scarifying the lids, and calls for the use of anesthetics. The trustees have taken the old building of the Gouverneur Hospital, which is now in use as a dormitory, and have fitted up the first floor and part of the second for the treatment of these cases. There will be the usual waiting room, operating room, recovery room and a ward for each of the sexes in which the patients may be kept for from 12 to 24 hours. This work is looked upon as in the nature of an emergency and it is believed that by vigorous measures now, the disease may be brought under control within a few months. The clinic will be opened in the course of the coming week.

Resolutions Concerning Dr. Reed.—At a stated meeting of the New York Academy of Medicine, held Dec. 3, 1902, the following resolution was unanimously voted: Whereas in the recent death of Dr. Walter Reed, Major Surgeon U.S.A., the science of medicine has lost the one whose brilliant research led first to the demonstration of the transmission of yellow fever by the mosquito and later to the practical removal of the disease from a large part of Cuba and the prevention of its transmission to the shores of this country. Be it resolved that the New York Academy of Medicine records its sense of the greatness of the loss to science and to mankind and its sympathy with the friends and relatives of the deceased.

Gift to Seney Hospital.—William Halls, Jr., vice-president of the Hanover Bank, at the Crystal anniversary dinner of the Seney Hospital, held at the Montauk Club, announced: "If by June 1, 1903, the sum of $50,000 is raised in *bona fide* subscriptions, payable in a reasonable time after that date, to cover the building debt, the current expenses deficiency and provide, say $15,000 on account of 1903 expenses to obviate a deficiency that year and bring the endowment fund up to at least $850,000, my wife and I will complete the buildings and grounds up to a cost of $125,000."

Blackwell's Island Diet.—There is to be a change of diet for those who are dwelling on Blackwell's Island in the various institutions there. It was brought to the attention of Commissioner Folks of the Department of Charities that the people of the island were suffering from a surfeit of beef. The Charities Commissioner recently tried a new diet on the people of the island. They were given "pork and beans with coffee in the dark." Other experiments in the way of milk, butter, and eggs were made with equal success. Commissioner Folks announced also that he had appointed Miss Florence R. Corbett, the Chief Dietitian in the Kings County Hospital, as his assistant and general adviser in the purchase, distribution, cooking, and serving of food in the Charities Department. She will take office Jan. 1, 1903, at a salary of $1,000 a year. In speaking of the appointment, the Commissioner said that during his investigations in the department he had discovered that there was a scarcity of variety in the foods served. He thinks that too much beef is served in some instances and not enough of vegetables, milk, butter, and eggs. Miss Corbett is a graduate of the Kansas State Agricultural College, and has studied in the Pratt Institute of Brooklyn. For three years she had charge of the Dietary Department of the Elizabeth (N. J.) General Hospital, which position she resigned to accept one with the Kings County Hospital.

Manhattan Dermatological Society.—Regular meeting held Friday evening, Dec. 5, 1902, Dr. Gottheil presiding.

Dr. Edw. Pisko presented a woman of forty years with xanthoma tuberosum diabeticorum. The moniliform type shows well on the flexor surfaces of elbows and knees; the papular variety scattered generally all over the body and some on scalp and the nodular tumor masses on back of hands and feet. She was first seen last August, when urine showed 5 per cent. of sugar; after six weeks' treatment on opium, two grains per day and a restricted diet, sugar reduced to $4^3/_{10}$ per cent. About 18 months ago eruption disappeared spontaneously and skin remained clear for eight weeks. At no time were the eyelids involved. Duration of disease six years.

Dr. Leviseur had seen three cases; none showed the moniliform arrangement; he recognized three varieties of this affection: (*a*) xanthoma palpebrarum (non-diabetic), (*b*) xanthoma tuberosum (diabetic), (*c*) xanthoma tuberosum (non-diabetic), the latter extremely rare. The treatment of the eruption was the general treatment of the accompanying diabetis.

Dr. J. Sobel said it was the first of its kind he had seen; it was hard to explain why the eyelids escaped; the pain he attributes to sensory neuritis, a complication of the diabetic condition. Dr. Gottheil stated that xanthoma palpebrarum was a distinct affection and usually non-diabetic; it resembled true xanthoma diabeticorum in color only. Never saw the moniliform type before. Dr. Weiss, Oberndorfer and Cocks said the condition as here shown was very rare; they would be pleased to hear subsequent reports on the case.

Dr. I. P. Oberndorfer presented a case for diagnosis: history, male, had a lesion on penis six weeks ago; cauterized by a local physician at that time. Also had gonorrhea then. At present lesion shows a faint trace of induration; inguinal glands apparently not enlarged, the body shows a distinct macular eruption. Dr. Oberndorfer thought of a copaiba eruption (taken for gonorrhea) a non-luetic eruption, which he could not classify, or a roseola following a non-indurated chancre.

Dr. R. Abrahams saw no inguinal adenitis and excluded syphilis; many soft chancres become indurated after caustic applications. Eruption nevertheless suspicious; the chancre, probably a soft one, and eruption accidental. Dr. Wolff considers it specific. Dr. Pisko thinks we have to deal with a parchment chancre and roseola.

Dr. Bleiman said that the patient should be given benefit of doubt and treated for syphilis, the history and the clinical appearance favor such a diagnosis. Dr. L. Weiss said that clinically he would favor the diagnosis of lues. Dr. Cocks called it a dermatitis; the chancre a soft one. Drs. Geyser and Kinch call it lues. Drs. Sobel and Gottheil stated it was difficult to differentiate between hard and soft chancres in the early stage. Some true chancres lacked induration, and soft ones often became indurated after harsh treatment. Regard the case as specific.

Dr. W. S. Gottheil presented a woman of sixty years with diagnosis of atrophia propria cutis (beginning process). There was thinning of cutis from knee to ankle (right) with patches of atrophy; the lower half of thigh hyperemic and margins of this area sharply defined; veins of lower limb prominent and varicosed; process began 18 years ago. Dr. Abrahams recognized the resemblance to his case presented to the Society recently and agreed in the diagnosis. Drs. Pisko and Bleiman stated that this condition was seen in long-standing cases of varix (Pisko). The question to decide was, whether varicosities or atrophy was the primary lesion (Bleiman). Dr. L. Weiss said that the thinning of skin, dryness without desquamation and glossiness speak for diagnosis of atrophia cutis. Drs. Cocks, Oberndorfer and Geyser accept the diagnosis of atrophy. Dr. Gottheil showed microscopical sections from Dr. Abrahams' case of atrophia propria cutis.

Dr. Leviseur presented a case of lupus vulgaris to show result of treatment by introduction of negative needle of a galvanic current, with two to four milliamperes and 28 voltage. He used potassium iodide for a time without result. Finsen therapy was inaugurated; 55 sittings in all were given; three sittings per week; patient not benefited; recrudesence took place upon three different occasions, but always responded to electrolysis. He believed that an antitoxin was produced which attacked the diseased areas. The patient likewise showed enlarged cervical tubercular glands. Dr. Abrahams was skeptical as to the results with the X-ray and electrolytic action. Believing that electrolysis was a process of tissue destruction he would expect somewhat similar results from the use of alcohol injections. He recommends the internal use of urea and reported a case of lupus with pulmonary involvement doing well on this line of treatment. Dr. Cocks was certain he saw good results from X-ray therapy. Dr. Oberndorfer was inclined to accept the antitoxic theory advanced by Dr. Leviseur, although not prepared to state whether the action was antitoxic, chemical or destructive. Dr. Geyser spoke of the advantages of low voltage. Dr. L. Weiss compared the old and new methods of treatment and claimed results for both. Dr. Gottheil believed the failure to affect a cure in this case was probably due to faulty technic; some cases are exceedingly rebellious, but the large majority do well under Finsen light treatment.

Newly elected officers for 1903: Dr. Ludwig Weiss, 77 E. Ninety-first street, president; Dr. Jacob Sobel, 1828 Madison avenue, vice-president; Dr. Asher Bleiman, 206 E. Forty-eighth street, secretary and treasurer.

PHILADELPHIA.

Hospital of University of Pennsylvania to be Enlarged.—Plans involving an outlay of $300,000 are being prepared for the enlargement and improvement of the hospital of the University of Pennsylvania. When the projected changes are made the capacity of the institution will be nearly double that of the present. The architectural appearance of the building will also be greatly improved by the change.

State Forestry Commission to Establish Free Sanatorium.—The state forestry commission of Pennsylvania proposes to establish near Mont Alto park, in the vicinity of Shippensburg, a free sanatorium for persons suffering with consumption. At the forest's edge 30 cabins, each furnished with two bunks and a table, will be built. In the field an assembly room will be erected. The tract includes 40 acres of white pine forest and pure mountain springs are within easy reach.

Alliance of Hospitals.—Twenty-five hospitals of this city are now allied for mutual good in the "Hospital Association of Philadelphia." The Association is advisory only, the principal topic thus far discussed being that of the cost of maintenance. One speaker said that the diverse ways in which hospitals estimate the cost of maintenance cause confusion in the minds of the members of the State Board of Charities, the trouble being that one hospital considers certain things under the head of maintenance, while another does not. Another speaker said that there would always be confusion until maintenance of plant and maintenance of patient were separated. He also said that hospitals could be maintained for one-third less than the present rate if they did not have pay patients. Committees were appointed to recommend a uniform method of maintenance, to report on the subject of nurses, and on abuses in dispensary practice.

Peribronchitis and Interstitial Pneumonia.—As the guest of the Philadelphia Pediatric Society at the meeting of Dec. 9, Dr. Abraham Jacobi, of New York, delivered an interesting address on the above topic. He reviewed quite fully the literature of the subject, giving in some detail the views of various writers on the occurrence and causes of interstitial pneumonia in children. The differential diagnosis of this condition from various other pulmonary lesions was then discussed, the statement being made that many cases of suspected tuberculosis of the apex are interstitial pneumonia. As to treatment, prevention is of great importance, the principal points being protection against infection and cold. To this end, strengthen the mucous and cutaneous surfaces. Get the child used to cold water. After a baby of one year has had a warm bath it should be sponged with water at a temperature of 75, 70, or 65 degrees. When the child is older, water at a still lower temperature should be used. Pneumonia patients should be removed from hospitals as soon as possible, as croupous pneumonia is transmitted from bed to bed. In the way of fortifying anemic children cow's milk should not be given too long, and drugs, such as arsenious acid, phosphorus, and iron given. If improvement does not occur under this treatment, suspect syphilis and give mercury. Digitalis may be given to children for long periods of time with no bad results. Children a year old will take this drug, often with most happy effect. To promote absorption of proliferating and newly formed fibrous tissue, begin early the administration of iodine.

Dr. Lorenz in Philadelphia.—The long-talked of visit to Philadelphia of Dr. Adolph Lorenz, the noted Austrian orthopedist, occurred during the week beginning Dec. 8. His five days' stay here was characterized by him as being "strenuous." Besides selecting cases for his clinic at the Jefferson hospital, the only place at which he operated in the city, he examined many cases in consultation, this occupying three days of his time. On Wednesday evening, the Philadelphia Medical Club tendered Dr. Lorenz a reception at the hotel Bellevue, and on Thursday evening he was given a reception at the Jefferson Medical College. Throughout his entire stay in the city, whether sight-seeing, attending receptions, or operating before hundreds of physicians and students, the modesty of Dr. Lorenz stamped him as a great man and endeared him to all with whom he came in contact.

The Clinics of Dr. Lorenz.—The only public clinic of Dr. Lorenz was held at the Jefferson Medical College hospital at 1 P.M., Thursday, Dec. 11. To this clinic were admitted only the senior class of the college and some 500 invited guests. Perhaps the majority of the physicians and surgeons present had come to the clinic in a more or less skeptical frame of mind. Though somewhat familiar, through descriptions, with the methods of Lorenz, the newspaper accounts of his western tour had awakened some doubts as to his real status as an operator. The clinic dissipated every doubt. There is no notoriety-seeking by that man. The newspapers are entirely responsible for that element. Every one went away convinced, whether he believes in the method of treatment or not, that Lorenz is the greatest exponent of that method. His work is the work of an artist in his line. Four cases were operated upon, one being a case of bilateral dislocation. The time occupied by the cases in order was 25, 20, 15, and 45 minutes. The last was the most difficult one met with by the noted surgeon in several years. The work of Dr. Lorenz's assistant, Dr. Mueller, in assisting with the manipulations and in applying the plaster dressings was also of the highest order and evoked much favorable comment. The fourth case so exhausted Dr. Lorenz that a fifth was held over until the next day when it was operated upon before about 30 invited surgeons. This was a bilateral dislocation and was reduced without much trouble, but one side giving any special difficulty. One remarkable thing about these cases is the slight amount of pain experienced by the children after operation. Of the four cases, but two required an anodyne the following night, and those only a trifling quantity of paregoric.

Typhoid at Bellefonte.—An epidemic of typhoid fever is alarming the residents of Bellefonte. In the town and immediate vicinity there are at present 40 cases, all of which have developed within the past two or three weeks. There have been two deaths and a number of patients are critically ill. An investigation by the Board of Health revealed the fact that the epidemic had been caused by polluted milk, a majority of the cases being among the users of milk from a certain dairy. Bacteriological examination showed that this milk contained large numbers of typhoid bacilli.

Society of Vienna Students.—The third annual meeting of the Wiener Verein, of Philadelphia, was held on Dec. 6. This society is formed of physicians and surgeons who have at some time studied in Vienna. Dr. Charles S. Turnbull was elected president, and Dr. C. Y. White, secretary and treasurer for the coming year.

CHICAGO.

Children's Hospital Planned.—Announcement has been made that the reform department of the Chicago Woman's Club is taking preliminary steps toward the holding of a conference to consider the establishment of a hospital for children in Chicago. The conference is to be held the latter part of this month, and will take up the need of an institution for sick and crippled children, and especially those afflicted with contagious diseases. A full discussion of proposed plans is being arranged for.

American Roentgen Ray Society.—The American Roentgen Ray Society held its annual meeting in Chicago, Dec. 10 and 11. The following officers were elected for the ensuing year: President, Arthur W. Goodspeed, Ph.D., of Philadelphia; vice-presidents, Dr. John B. Murphy, of Chicago, and Dr. Wm. Jordan Taylor, of Cincinnati; secretary, Dr. James B. Bullitt, of Louisville, Ky.; Treasurer, Dr. Weston A. Price, of Cleveland; executive committee, Dr. James P. Marsh, of Troy, N. Y.; Dr. Walter W. Johnson, of Rochester, N. Y., and Dr. Ralph R. Campbell, of Chicago.

Need of Isolation Cottage at Parental School.—No arguments based upon considerations of economy should dissuade the board of education from complying with the recommendations of the committee of physicians regarding the building of an isolation refuge for pupils afflicted with contagious diseases in connection with the parental school. Drs. Chvatal, Hartung and Dudley of the board of education were appointed a committee to investigate the dormitory and hospital questions at the parental school. They reported in favor of using the attic of the building for a dormitory rather than a hospital, and the construction of a separate cottage as a temporary isolation hospital for the care and detention of children afflicted with contagion until their parents could take charge of them. An appropriation for this purpose was made by the building and grounds committee of the board, but some of the trustees favor the use of some of the rooms in the parental school for hospitals. The separate cottage plan should be carried out in the interest of public health. The parental school cannot be regarded as complete without this adjunct. The use of rooms in the main building for isolation hospitals would incur the danger of exposure of healthy pupils to contagion. The public schools under ordinary conditions are the great distributers of contagion. This danger is now minimized as much as possible under the present inadequate system of medical inspection. There is much greater danger from the parental school because of the fact that its truant occupants are largely gathered from the streets and slums, where exposure to contagion is greatest. These children cannot be thrown into the street, when symptoms of contagion are manifest. At the same time, they must be promptly separated from the other pupils. A temporary isolation cottage is a necessity.

Politics in Our State Hospitals.—If anything were needed to impress the people of Illinois with the fact that the state charitable institutions have been scandalously prostituted to the base ends of party bosses and politicians, and have become mere party machines, it is supplied by the editorial comment in scientific journals. devoted to discussion of the subjects that pertain to the state care of the insane and other classes of dependents and derelicts. The disgraceful conversion of the state hospitals for the insane into mere dumping grounds for party mendicants in this state is a matter of such general knowledge among alienists and experts in medico-psychological research in other states as to become the favorite example for illustrating the deterioration and degeneracy that result from political management of such institutions.

To Wage War on Consumption.—Consumption is about to meet an uncompromising foe in systematic opposition planned by the Visiting Nurse Association of this city. At a meeting of the directors, the following committee has been appointed to look after the preliminaries required to put the immature plans of the organization into practical operation: Mrs. James L. Houghteling, Mrs. E. C. Dudley, Mrs. S. J. Walker, Mrs. Arthur T. Aldis, and Mrs. Henry Hooper. This committee has held only one meeting, and it has been decided to call a conference, including prominent physicians, representatives of the board of health, to be held in the rooms of the Association in the middle of January. As far as formulated, the plans are to promulgate the doctrine that consumption is a communicable, preventable and curable disease. To this end an endeavor is contemplated to distribute literature spreading the knowledge of the disease as widely as possible. Question of founding a hospital for the proper treatment of the patients is also under consideration. Perhaps the greatest interest taken by the committee is the initiation of a measure to look after the prevention of tuberculous diseases, such as the improvement of tenement buildings, the creation of parks and playgrounds, public baths, gymnasium, creation of agricultural colonies for the predisposed, incipient and cured patients.

Presbyterian Hospital Extension.—The Presbyterian Hospital has bought two residences on Ashland avenue and Congress street, for which the sum of $40,000 was paid. They will be remodeled immediately, and will be opened on the first of January, as a home for nurses connected with the hospital.

Sclerosis of the Mastoid Process.—At a recent meeting of the Chicago Medical Society, Dr. Otto J. Stein read a paper on this subject. After citing the report of a case of morphomania, in which the patient made extravagant claims of aural trouble, the author reports in detail the history of two of his own cases, presenting conditions of drug mania, but wherein operative measures revealed an advanced state of osteo-sclerosis of the mastoid process. After a careful study of his cases, the author arrives at the conclusion that, as the result of changes going on within the mastoid process, wherein the mastoid cells are gradually being obliterated by the formation of new bone tissue, the symptom of pain may become so persistent and intense as to cause patients to take recourse to the effects of powerful drugs in order to obtain relief from their suffering. The character of the pain is described as very deep-seated; a dull ache, similar to a slight toothache, being constantly present. At intervals the pain increases to the extent of being neuralgic in character. It is centered mainly back of the ear, in the mastoid region, and thence radiating up towards the side of the head and down into the neck. Noteworthy is the absence of pain in front of the ear. Pressure over the mastoid, usually just back of the meatus, will elicit a sharp sensation of pain. As regards the relief of this condition, he holds that the operative measure of removing a core of bone from the eburnated mastoid process is justifiable and productive of prompt relief.

Splenectomy.—Dr. J. Clarence Webster reported a case of splenectomy. The patient's family history was quite negative. She was thirty-seven years of age, and gave a history of repeated attacks of malaria during her residence in the South for many years. Twice she was jaundiced, and on two occasions had a severe pulmonary hemorrhage. Twenty-six years ago she had an attack of typhoid fever, and when a child was the subject of rheumatism. Her present illness dates back seventeen years, when she observed after the birth of her child a swelling in the right iliac region, which was quite painful, and of slow growth. Four years ago she was laparotomized, and the operator told her that he found an inoperable tumor connected with her right kidney. When seen by Dr. Webster during the summer, she complained of severe pain in the abdomen, chest, shoulder, and the right iliac region. Dysmenorrhea and frequent and painful micturition were prominent symptoms. She was very short of breath. For the past eight years she had very severe colicky pains in the right side, which at times were so intense as to demand the administration of chloroform. After the subsidence of these colicky pains, her urine was very dark and of a reddish-brown color, and of strong odor. Physical examination revealed an emaciated and sickly-looking woman, whose skin was intensely pigmented. The pigmentation was of a brownish color, diffused over the entire body, with here and there patches of intenser color. There were in and on the skin innumerable nodules. Examination of her blood showed 4,016,000 red cells; 16,800 whites, and 70 per cent. hemoglobin. Her temperature for the most part was slightly above normal. from 99° to 101° F.

Bimanual vaginal examination revealed a fixed and retroverted uterus, with appendages not distinctly palpable, but fixed and tender, and close to the right side of the uterus, extending to the ilium, and completely filling the right iliac fossa was a large movable tumor. After treating the patient for a few months on tonics, she was operated upon on Sept. 25, and a large tumor, which was enveloped in dense adhesions, which was fixed to the brim of the pelvis, adherent to the uterus and its appendages, to the bladder, and also the vermiform appendix, was removed. This tumor was found to be a greatly enlarged spleen. The patient made a very satisfactory recovery, and was exhibited by Dr. Webster to the members. Microscopic sections of the spleen and the cutaneous nodules were exhibited.

Case of Funnel Pelvis.—Dr. Chas. B. Reed reported this case. May 4, 1900, he was called in consultation to see a patient, aged nineteen, in her first confinement. In spite of the utmost efforts attempts to effect the delivery failed. The child was asphyxiated, craniotomy was done through the roof of the mouth, and the mutilated head passed the contracted outlet with some difficulty. In Oct., 1901, she reappeared, pregnant for the second time, but with no knowledge of the date of conception. This time it was found necessary to resort to Cesarean section to extract the child. The child weighed 7½ pounds, and at the end of four weeks the mother left the hospital, with her babe in excellent condition.

The Relation of Gonorrhea to Tuberculosis of the Genito-Urinary Tract in the Male and Female.—Dr. Daniel N. Eisendrath read a paper on this subject, in which, after presenting a study of the cases found in the literature, and in his own practice, he drew the following conclusions: (1) That in patients suffering from an acute gonorrhea there may be an almost imperceptible transition into a malignant type of tuberculosis; (2) that subacute or chronic gonorrhea may mask the presence of a tuberculosis. That these, as well as the acute form, may act as predisposing and, at times, as exciting causes of tuberculosis. (3) In patients who show evidence of local complications of gonorrhea, such as prostatitis, vasiculitis, cystitis or epididymitis, one should always bear in mind the possibility of tuberculosis and examine the urine for tubercle bacilli, if antigonorrheal treatment causes no improvement. (4) In patients with marked tubercular history, an attack of gonorrhea should be carefully watched, and the prognosis be guarded. (5) Gonorrhea, both in the male and female, often prepares the soil for a later invasion of the tubercle bacillus.

Report of Sixty Cases of Actinomycosis, with Demonstration of Specimens.—At a recent meeting of the Chicago Surgical Society, Professor R. Von Baracz, of Lemberg, Austria, read a paper on this theme, selecting the subject for two reasons: (1) because the disease is rarer in this country than abroad; (2) because he had made a special study of it, having had occasion during the last 14 years to observe it in 60 cases. The reason for its frequency in Galicia is owing to the extensive farming done in that country. As to the seat of the disease, he has had 52 cases of actinomycosis of the jaw and neck; three of the tongue; three of the thorax and lungs; and two of the abdomen. As to the abdominal form of the disease, he has had occasion to observe three more cases in the practice of colleagues, so that he has seen altogether five abdominal cases. Actinomycosis, he said, is produced solely by a special form of fungus, the *Streptothrix actinomycotica.* This fungus usually enters the body through the mucous membrane of the mouth, of the air passages, or of the digestive tract. Very rarely does it enter through the skin. The transmitters of the disease are exclusively minute vegetable bodies, as the awns of barley and grass particles. The proof of this is the frequent finding of these bodies in actinomycotic abscesses. The teeth are never the portal of entrance. The cases cited by Murphy, Partsch and others, in which a communication between abscesses of the soft parts and the alveolus was found, or in which a fungus was found in a decayed tooth, are not sufficient proof, in his opinion, that the disease gained entrance through the decayed tooth. Evidence of the incorrectness of this route of infection is the lack of decayed teeth in actinomycotic cattle, and sometimes in human subjects; the impossibility of finding the fungus in decayed teeth, and the frequent finding of the fungus in the soft parts of the cheeks. He has himself detected such vegetable bodies in 13 cases of cheek and tongue actinomycosis, but never in decayed teeth. In these he only found the *Leptothrix buccalis.* He showed a specimen of actinomycosis of the tongue, in which the center of the ray fungus colony was the awn of oats. Decayed teeth play an important rôle in the etiology of the disease, as the softened and swollen gums allow of easy entrance of the fungus with a foreign body. The fungus rarely develops in the mucous membrane of the mouth itself.

Regarding the treatment, in the first 40 cases the treatment was operative, consisting of curettement and extraction of teeth. As the disease generally produces a hard wall around the softened area, which hinders the extension of the process, he attempted in several cases to produce such a wall, which consists of connective tissue, by hypodermic injection of irritants, like tincture of iodine, and 20 per cent. solution of nitrate of silver. In this manner he was able to cure his last nine cases without any operative interference. Nitrate of silver in sticks, or in 20 per cent. solution, not only produces such a boundary of connective tissue, but kills the fungus. Tongue actinomycosis occurs in the form of circumscribed or diffuse abscesses. In three cases of actinomycosis of the tongue, he found vegetable bodies in softened tissues. These were cured by opening and curettement. In actinomycosis of the thorax and lungs, the prognosis is unfavorable. Three of his cases died. The fungus enters here by the air passages or the esophagus. In one case, at the autopsy, he found a fistula between the esophagus and the posterior mediastinum. These cases are not suitable for surgical treatment. He said the reported cures of lung actinomycosis must be considered cum grano salis, because of the short time for observation after the operation. He believes that intravenous injections of collargol in actinomycosis of the lung and thorax will be of great service. He has attempted intravenous injections of the various soluble preparations of silver in a number of dogs and rabbits. For this purpose he used one to two per cent. solutions of argonin, argentamin, largin, ichthargon and soluble colloid silver (collargol), in increasing doses, and the last proved the best, in comparatively large doses, according to the body weight of the animals. He observed no unpleasant symptoms. As far as the fungus itself is concerned, he comes to the conclusion through personal observation that there is only one form of the fungus which produces actinomycosis. Some authors require cultures for a positive diagnosis of the disease, but he believes this to be unnecessary. The fungus can be easily discovered microscopically, and it is often possible to diagnose the disease macroscopically with some degree of certainty.

CANADA.

The Matriculation of the Ontario Medical Council.—The Minister of Education for Ontario has received from Dr. R. A. Pyne, the Registrar of the Ontario Medical Council, the report of the Executive Committee of that body which interprets the regulation with regard to matriculation in medicine which has been causing medical students so much concern during the past three months. It provides that the standard for admission to study medicine for 1903 shall be the same as for 1902, and for 1904 and subsequently, the standard of admision shall be either (1) junior matriculation in arts, including physics and chemistry, with honor standing in any one subject of the course, or (2) senior matriculation, in arts as now provided for in the regulations. As the changes now announced will not come into operation until 1904, there will be ample time for their discussion and amendment if necessary.

Toronto Dispensary.—When the General Hospital was established in Toronto in 1854, in the east part of the city, the Toronto Dispensary was established in the west end in the same year. There has been very little change in the management of this dispensary in that time and it has continued to do good work in a quiet and unobtrusive way. According to the annual report for the year 1877 there received benefit from this institution in that year 4,000 new patients and 6,000 old ones. This made a total of 10,000 applications for relief. During the last official year (1901) the number of applications reached nearly to 17,000, representing all types of disease. As there is urgent need for funds in order that this old-established institution may continue on at its work, the Board of Management is making an appeal to the public for financial assistance to build and equip a modern and up-to-date dispensary.

Fatal Epidemic of Measles on Arctic Shores.—The Public Health Department at Ottawa has received from the United States Public Health Department the report of Dr. Vogel, of that department, dated Dutch Harbor, Alaska, Oct. 20, stating that measles in epidemic form prevails among the natives inhabiting the Arctic shores of North America in the vicinity of the mouth of the McKenzie River. The captain of the whaling steamer Alexander, also reports that there have been over 100 deaths from the disease in several months. Dr. Vogel states in his report that measles in that section of the world should be a quarantinable disease, as it is as fatal to the natives as smallpox is to unvaccinated Caucasian communities.

Regulations Regarding Diseased Immigrants.—A short time ago the Immigration Department at Ottawa appointed Dr. Ellis of St. John, N. B., chief immigration medical officer, and now has prepared regulations for his guidance. He will be empowered to deport immigrants suffering from infectious or dangerous diseases. Those immigrants whose destination is the United States, and who have been refused certificates by the American Commissioners at the seaports, on the ground that they are physically or mentally defective, will be deported by order of the medical officer. The regulations also provide for the medical treatment of those at their own expense who are unable to proceed to their destination. In addition the department will appoint medical officers under Dr. Ellis, at the ports of Quebec, St. John and Halifax, who will be invested with full authority to carry out these regulations.

Appointments at McGill University, Montreal.—At a meeting of the corporation of McGill University held last week the resignation of Dr. P. G. Woolley was announced of the governor's fellowship in pathology. Dr. H. Wolverstan Thomas was appointed to a faculty fellowship in pathology, vice Dr. Charlton. Dr. A. H. Gordon, gold medalist, 1900, was appointed demonstrator in physiology, vice Dr. Scane, who has removed from Montreal. Dr. Starkey, the newly appointed professor of hygiene, was selected to deliver the annual university lecture on a date in January to be fixed later. There are 420 medical students registered at McGill.

Contagious Diseases Hospital for Montreal.—The latest phase of the proposed new contagious diseases hospital for Montreal is the proposition that the Notre Dame Hospital and one of the English Hospitals erect pavilions for the treatment of patients and the city grant each for the purpose the sum of $10,000. Under this plan an average of 20 patients a day would be taken care of for the above sum, the contract to extend over a period of 20 years. Whenever the patients exceed 20 in number, the city was to pay in addition 75 cents a day for children and $1 for adults. The hospitals are favorable to this plan, Notre Dame to look after the French while one of the English hospitals looks after the English. The above has the approval of the mayor of the city.

The Gifts of Two Canadians to London, England, Hospitals.—In July just before the coronation of King Edward, the news came across the water that Lord Strathcona and Lord Mount-Stephen had made munificent donations to King Edward's Hospital Fund for London. At that time it was merely a matter of conjecture as to the amounts given; but now that the secretaries of the Fund have announced the receipt of the first quarter's interest on the gift, some idea may be gained of the princely donations. The first quarter's interest on the securities set aside by the two noble Lords amounts to £4,094, 2s 4d. This will give an annual income (at the prevailing rate of interest) of £16,376 13s 4d.. an amount equal to $79,699.83, for all time to come.

GENERAL.

International Congress for the Prevention and Cure of Occupation Diseases.—Plans are being formed for this congress, of which Dr. M. De Cristoforis, Deputy to the Italian Parliament, is the leading spirit. It is proposed that it shall convene at Milan in 1904, and its objects will be the study, prevention and treatment of occupation diseases and the laws pertaining thereto. In connection with it, there will be an exposition of industrial and professional hygiene.

News from Radica.—The Hindu girl who survives the surgical separation from her sister Doodica, is now at Hyères, and while, like all tuberculous subjects, her condition varies with the atmospheric changes, it is now believed that the favorable climate, and care she is receiving will bring about a complete cure. When questioned concerning her sister, it is said that she gives the impression that the separation came in the nature of a relief to her, as Doodica, being the larger and stronger of the two, subjected her to no little annoyance. Radica has now reached the age of thirteen.

University of California.—There is much gratification over the fact that Dr. Jacques Loeb of the University of Chicago has accepted the new chair of physiology in the University of California. The facilities for research which he will have will be admirable. The building of Physiology Hall, a temporary building to contain his special workshop, will be begun at once; and the $425,000 lately given by Rudolph Spreckels will provide a complete outfit of salt-water aquariums, research laboratories and class-rooms. Dr. Loeb and Mr. Howard, the supervising architect of the university, have already held conferences at Chicago, and the plans for the building have been drawn up. Dr. Loeb is to have as assistants three young biologists, Dr. Frank Bancroft of this university and Dr. Martin Fischer and Charles Rodgers from Chicago University. Several scientists will follow him to his new laboratories for purposes of research, so that the department will begin work in January with much promise.

Changes in the Medical Corps of the Navy, Week Ending Dec. 13.—Medical Director F. M. Gunnell, retired, ordered to the Bureau of Medicine & Surgery, Navy Department. P.A. Surgeon E. O. Huntington, detached from treatment at the Naval Hospital, New York, and ordered to duty at the Navy Yard, New York. P.A. Surgeon W. H. Bucher, ordered to duty at the Naval Hospital, Norfolk, Va.

A New Psychological Laboratory at Oberlin.—About five years ago a psychological laboratory was begun for Oberlin, but the equipment was so entirely inadequate as to make it impossible to do anything more than elementary work. Oberlin is to begin the foundation of a laboratory which shall adequately meet in this regard the needs of a high-grade college.

Obituary.—Dr. Lucy Edwards, 50 years old, one of the most prominent women physicians in Northern New Jersey, was found dead in bed yesterday at her home, 194 North Sixth street, Newark, after having retired in apparently good health. She had locked her room door and a servant who tried to awaken her in the morning had to summon neighbors, who got into her room through a window and found her dead. Death was attributed to heart disease. Dr. Edwards practised medicine in Newark for nearly twenty years and was well-to-do and popular.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, December 6.

THE GENERAL MEDICAL COUNCIL AND THE BRITISH MEDICAL ASSOCIATION—RETIREMENT OF A MEDICAL M.P.—A MEDICAL COLONIAL GOVERNOR ON MALARIA—THE ARMY MEDICAL SCHOOL—THE AMENDMENT OF THE LUNACY LAW.

OUR professional Parliament, the General Medical Council, concluded one of its half-yearly sittings this week. The most important part of the business before it was the eternal question of the preliminary education of medical students; but nothing came of the discussions. A memorandum on the subject was presented to the Council by the British Medical Association some time ago. This was referred to a Committee which submitted a reply. It is not clear, however, whether this is to be taken as the reply of the Council. The President stated distinctly that it was the reply of the Committee. This leaves the matter in a somewhat mysterious state, for the Council can, if it sees fit, repudiate the reply of the Committee. I mention this not as having any interest in itself, but as an illustration of the unbusinesslike methods of the General Medical Council. The Council does not love the British Medical Association, which it loses no opportunity of trying to snub, undeterred by the fact that the snub usually comes back on its own head. Mention has been made in several previous letters of the new law for the registration of midwives, and it has been said that the medical profession, thanks mainly to the trade-union spirit in which its agitation was conducted, was finally thrust aside by the government. One concession was, however, at the last moment made to the doctors, namely, that practice for gain by uncertified midwives was penalized. For this solitary point scored to them the doctors have to thank the British Medical Association. Yet in the face of this open palpable fact, an attempt was made to claim for the General Medical Council the credit of getting the clause referred to inserted in the bill. The attempt failed ignominiously, but the fact that it should have been made is a curious example of the petty jealousy with which the Council regards other professional bodies. The rest of the business done can be summed up in the words of the song in "Iolanthe" about the House of Lords. The Council

Did nothing in particular
And did it very well.

One of our medical Members of Parliament will shortly cease to adorn the House of Commons. Sir Michael Foster, who is Professor of Physiology in the University of Cambridge, but who represents the University of London, has announced his intention of resigning his seat. His reason for taking this step has not been made public. I should think it probable that the work bores him, for although a man of the world in some respects, he is most at home in the groves of Academe. His retirement is a great loss to the medical profession, which had in him a representative of whom it might well be proud. Among those who are likely to come forward as candidates for the vacant seat is Sir John Williams, the leading authority on obstetrics in this country. He is Emeritus Professor of that subject in University College, London. It has been suggested that, if he is returned, he would make an especially suitable head for the Labor Department of the Board of Trade. There is a well-known story about Joseph Addison who, though a charming writer, was no speaker. It was, however, his fate to sit in Parliament and to hold office as a Secretary of State. On one occasion it is recorded that he rose to make a speech. He began, "Mr. Speaker, I conceive. . . ." These words he repeated twice, and being unable to get any further, sat down in confusion. Some one thereupon called the attention of the Speaker to the fact that Mr. Addison had conceived three times and brought forth nothing. If Sir John Williams is elected, he may at least be able to help honorable members to a happy delivery of their conceptions.

Sir William MacGregor, Governor of Lagos, was a doctor "by first intention" and practised his profession in tropical climes till he found administrative work more attractive. He has earned a great reputation as a Colonial Governor and he has put his medical knowledge to excellent use in safeguarding the health of the communities over which he has ruled. Last week he delivered an address on the malaria problem at the University of Glasgow. He said that the heavy responsibility of Great Britain which possessed the lion's share of the malarial regions of the earth might be illustrated by the statistics of malaria in India alone, where in 1900 the deaths caused by that disease numbered 4,919,591. The significance of these figures may be grasped more easily if one reflects that this annual mortality exceeds the total population of Scotland by half a million persons. He asked his hearers to imagine what would be the terror and consternation produced in Europe were this appalling mortality centralized and located so that the whole population of Scotland became extinguished by malaria in 1903, and the whole of the subjects of the kingdom of Holland succumbed to the same malady in 1904, followed by those of Sweden in 1905. Discussing the means of prevention, he held it as perfectly certain that quinine exerted a powerful preventive action against malaria. It did not seem to make very much difference how the quinine was taken so long as an adult individual absorbed at least 15 grains a week. It would doubtless, he thought, become a rule before long that officers who did not take quinine and suffered from malarial fever would not receive pay when off duty on account of the disease. His own treatment of malarial fever in British Guiana was very successful in many hundreds of cases. It consisted of a dose of 10 grains of quinine with five grains of antifebrin once or twice a day. In the way of mechanical means of prevention, he advocated the use of mosquito nets and wire netting, together with draining and drying up pools and swamps, or where this could not be done, destroying them as breeding places for the mosquito by covering them periodically with crude petroleum. In urging the regular use of quinine as a prophylactic, one was met with the objection that blackwater fever was produced by quinine, or that if constantly taken it would begin to lose its effect. It was a superstition which died hard. Blackwater fever, said Sir William, might occur without the inciting cause of quinine; he had had experience in his own person, for he had had his one attack when he had not taken quinine for many months. He inclined to the opinion that blackwater fever was malarial, and he thought it likely that he should lean to that view until he knew of some place where blackwater occurred without malaria. For it there was no fixed treatment. The most successful known to him was that introduced by Dr. Gouzien, late chief medical officer of Dahomey. It consisted essentially in the subcutaneous injection of a standard saline solution. Finally, he said that in the great struggle with malaria he attached much importance to education, not only of the people who lived in malarious countries, but also of those who remained at home in the mother country. I have given Sir William MacGregor's views at some length, because they seem to me important as being the outcome of the experience of a shrewd observer. He is a son of Caledonia, stern and wild, with a harsh voice and a Scotch accent which rasps the ears like a nutmeg grater. He is one of the class of young Scotsmen who work as farm laborers in the summer to earn enough to pay their college fees in the winter, and cultivate the Muse *tenui avenâ* which Sydney Smith translated "on a little oatmeal." A year or two ago he delivered the introductory address at the London School of Tropical Medicine before a distinguished audience. The oration was horribly stuffed not only with epithets of medicine and the allied sciences, but with quotations from Greek, Latin, French, German and Italian—all pronounced after the manner of his native wood notes wild. One of the afflicted persons who listened to this polyglot discourse said it contained specimens of every European language, with the exception of English. But for a' that, he is a man of cultivated mind and a wise physician, and he is further interesting as an example of the medically trained administrator, a type which at present has its most striking embodiment in the person of General Leonard Wood.

The Army Medical School where all young surgeons entering on a military career have for many years past undergone a course of special post-graduate instruction has been moved from Netley near Southampton to London. The great military hospital at Netley still remains where it was. The present position of affairs therefore is that the School has no hospital attached to it. A hotel near the headquarters of the Army Medical Service has been hired for the young men, and they attend lectures and go through courses of laboratory instruction at the Examination Hall of the Royal Colleges of Physicians and Surgeons which is situated on the Thames embankment not far from the river side of the Hotel Cecil. At first sight this transplantation of the Army Medical School to London, before there is a building ready to receive it, might seem to be only another instance of the amazing talent for blundering which is the chief characteristic of our War Office. I have reason to believe, however, that in this case there is some method in its apparent madness. The removal, premature as it may seem to be, is designed to force the hand of the Treasury which paralyzes attempts at efficiency by the tight grip it keeps on the public purse. It is thought that the school is more likely to be thoroughly up-to-date in its teaching under the eye of the Advisory Board, which now rules the Service, than at a distance from the seat of authority. Moreover, under the new regulations officers have to devote a good deal more time to study and practical work in order to qualify for promotion. Hitherto they have been allowed to spend their "study leave" pretty much where and as they pleased, with the natural result that in a large proportion of cases the study was merely nominal. Now the two periods of six months required to qualify for promotion must, except in the case of officers serving in India, be gone through in London, and it is mainly for this purpose that a new Medical Staff College is to be erected at Millbank on the north bank of the Thames, a little higher up than the Houses of Parliament. The change is not approved of by some of the professors of the school, and one of them, Dr. A. E. Wright, the Professor of Pathology, has resigned ostensibly on that ground. He is an able man, but his loss to the school will not be irreparable. He has something of the erratic ways of genius and his teaching was over the heads of his students, the vulgar details of what may be called everyday pathology being treated in rather summary fashion, while much time was bestowed on the spinning of intellectual cobwebs. Dr. Wright, whose name is doubtless known to your readers in connection with inoculation against enteric fever, had, it is said, become so utterly obsessed by the subject that, like the head of Charles the First in Mr. Dick's appeal, it intruded itself into all his teaching. The value of the method is, to say the least, still unproved, and I understand that the authorities, medical and military, are of opinion that it has been unduly pushed. Professor Wright is absolutely above any suspicion of sordid motives, but he is an enthusiast. He was not long ago appointed pathologist to St. Mary's Hospital, a post which perhaps he thought he might hold in conjunction with his professorship in the Army Medical School. The War Office, however, has just invited him to make his choice between the two, and he has decided to shake the dust of the school off his feet. His decision may be regarded as a sacrifice to principle, for it means the loss of $3,000 a year in salary. It should be added that although the professors naturally feel the position of being forever in their official taskmaster's eye rather irksome, the general opinion is that the removal of the school to London is likely to be beneficial to the service.

The proposals made by Sir William Gowers for the amendment of the Lunacy Law, the gist of which was given in my last letter, seem likely to meet with strenuous resistance from the medical officers of lunatic asylums. A Joint Committee of the British Medical Association and the Medico-Psychological Association has been formed to consider the whole question. This Committee held its first meeting on December 3, and it is understood that the general feeling of the members was distinctly adverse to Gowers' suggested reforms. This is doubtless partly due to jealousy at the intrusion of an outsider, however eminent, into a *hortus inclusus* within whose circle they think none should walk but they. It is also partly due to enlightened self-interest, for men who live by keeping asylums, naturally look askance at a proposal which would deprive them of some of their best-paying patients. There is probably, too, an element of resentment at the manner in which Gowers has brought the matter forward, for his demand for reform, though nominally addressed to the Medico-Psychological Association, was really made to the public. The committee of the two associations has not yet taken the press into its confidence, but it is understood that the following course of action was decided upon: That a deputation should be appointed to wait on the Lord Chancellor to ascertain whether the government intends to introduce any lunacy legislation. Should the Lord Chancellor's reply be in the affirmative, he will be further approached to discover if this legislation will be in the shape of the proposed Lunacy Act of 1900, which successfully passed through the House of Lords, but which the government did not find time to introduce into the House of Commons. Should the reply again be in the affirmative, the Parliamentary Committee of the two bodies will then consider the advisability of making additional recommendations to the Lord Chancellor. This, however, is unlikely, for though the unsuccessful bill of 1900 is not regarded as an ideal one, it yet achieves the main object of the agitation which Sir William Gowers is striving to set on foot, that is to secure more reasonable and humane treatment for persons on the borderline of insanity.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

TREATMENT OF APPENDICITIS—NEPHROTOMY FOR RENAL CALCULUS—HEREDITARY SYPHILITIC TABES DORSALIS—TREATMENT OF TETANUS BY THE METHOD OF BACCELLI.

DURING the past month and a half the French Societies have held their usual regular meetings. Notes of the more important ones follow:

MOTY, at the Society of Surgery, Oct. 29, 1902, a member of the military staff, read notes on the treatment of appendicitis, particularly in those cases in which the surgeon ordinarily hesitates to interfere, as in the case of abdominal contusion. He attaches the greatest possible importance to the condition of the pulse. If he establishes the fact of the least acceleration of the pulse, at the end of a few hours, he immediately proposes intervention. If, on the contrary, the pulse at that time is stationery, he waits until the next day. If, at this moment, the frequency of the pulse is increased, he immediately carries out the operation. Compliance with these two simple rules has always worked good results in his hands. He never uses ice in cases of this kind, because he finds it tends to mask the symptoms. He always, however, puts the patient into bed and prescribes limited diet.

SEGOND referred to the observation of appendicitis perforated during the period of quiet, which Ligueu had recently communicated to the society, and the value of which as a fact in medicine, Regnier had disputed, and had apparently blamed the operation itself in certain cases of this disease with a fatal issue. He also stated that there was a fact in his own judgment, on the contrary, which was important in these cases, namely, that as a rule the fatal outcome is the consequence of a delayed diagnosis, which really led to an operation too late in the disease. His own case of this nature concerned a young woman who had been cared for during several months preceding his first visit, on the diagnosis of hepatic colic. She was suddenly seized with violent pain in the right iliac fossa. It was, however, after 50 hours of this pain that a diagnosis of appendicitis, with perforation and generalized peritonitis was made. For this, naturally, a gloomy outlook was given. In agreement with the opinion of Dieulafoy, he operated on this patient on the ground that, although probably dying, her only chance consisted in a prompt operation. He found a gangrenous appendicitis, without adhesions, and with several cupfuls of toxic, foul liquid in the peritoneal cavity. Death followed in three days. He is convinced that if this woman had been operated on earlier, she would have recovered, just as he has seen other patients operated on before the forty-eighth hour recover completely from gangrene of the appendix, equally extensive. He believes that the moment has arrived for publishing broadcast all cases of death from appendicitis, due directly or indirectly to delay, because it is by a systematic denunciation of this method of treatment that the real danger of this disease will be eliminated.

VILLAR, of Bordeaux, said that he was becoming more and more an interventionist, because of the impossibility of physicians presaging what will be the outcome of an appendicitis which has just been diagnosed. It is a well-known fact that in many cases where at the beginning the symptoms are sufficiently benign, the lesion suddenly became most treacherously grave and susceptible of fatal termination. These cases may be saved only by a very prompt intervention. All patients upon whom he has so far operated at the beginning of the symptoms are doing well, in such a uniform manner that he cannot possibly see what blame the temporizers may lay against an early operation. All the disasters in his hand, which he is able to recall, on the contrary, have been due to delay.

Bazy, in discussing the subject of nephrotomy for renal calculus, with immediate suturing of the kidney, and without drainage, said that Riche had presented an observation on this subject of which he wished to take note. The patient was a forty-one-year-old woman on whom a diagnosis of right-sided pyelonephritis had been made. When nephrotomy was performed, a large calculus was removed. The tissue of the kidney seemed to be in good condition, therefore the operator sutured it together without drainage. The patient recovered promptly and perfectly. There was apparently a large amount of risk incident to suturing an infected kidney, but Riche did not decide to carry out this maneuver before he had found out that there was no retention, and that therefore he could depend upon the ureter to maintain perfect drainage. The advantage to the patient was that she thus avoided the discomforts of a lumbar fistula. Before the operation Riche separated the urine. Basile thought that this method was not necessary, excepting in a very small number of cases, because in the majority of cases it is possible to make the diagnosis distinctly by other means. Moreover, in the male subject, the use of this apparatus is not without considerable difficulty to the patient and surgeon alike.

Babinski, at the Medical Society of the Hospitals, Oct. 24, 1902, in discussing the question of hereditary syphilitic tabes dorsalis, said that there are in literature 20 well-authenticated reports of this condition. He thinks that the disease exists more commonly than is generally supposed probably because it is usually present in a more or less masked form. For this reason he begged to present the histories of two such cases. The father of each of them was himself a tabetic. The first case was a young woman, twenty-two years of age, presenting the teeth of Hutchinson, who, up to her eighteenth year had enjoyed good health, excepting that at her birth she presented ulcers around the anus, and that during her seventh year she was seized with convulsive tic. In her seventh year she presented interstitial keratitis, with all the characteristics of hereditary syphilis.

During the past two years she has been a victim of crises of pain, and her pupils are not active to light. Further, it is to be noted that the father of this poor patient contracted syphilis while her mother was pregnant with her, and thus herself, became contaminated. The father at present presents the characteristic signs of tabes dorsalis, namely, abolition of the reflexes at the knee and ankle, irritability of the bladder and lightening pains and the Argyll-Robertson pupil. The other patient was a fifteen-year-old girl whose pupils were insusceptible to light, whose reflexes at the knee and ankle were abolished, whose bladder was showing symptoms, who had a choroiditis on the left side of syphilitic character, and, finally, whose cephalorachidian fluid disclosed lymphocytosis. The woman also presented mental disorders pointing toward an early dementia, perhaps due to a meningo-encephalitis of uncertain distribution. Her father was the victim of tabes dorsalis, precisely like the father of the foregoing case. The recognition of facts like these are of really practical value, because it is already admitted that treatment with mercury, energetic and persevering, may exercise upon these hereditary syphilitics a curative effect no less active than in acquired tabes, that is to say, that it may delay in a fixed measure the progress of the disease.

Claucé contributed an observation of a forty-six-year-old man, who, five days after having received a little cut on the little finger of the left hand, presented symptoms of an intense and tonic paroxysmal contracture of the muscles, with fever, delirium, and other characteristic signs of tetanus. He immediately received an injection of 20 c.c. (5 drams) of antitetanic serum, and then, on the following days a daily dose of 0.2 grams (1.5 minims) of carbolic acid. In addition to these means of treatment, artificial serum was injected and chloral given in large doses, and the wounded finger removed. During 48 hours the condition of this patient remained practically featureless; then the fever and other symptoms began to abate and enormous quantities of sweat and urine were passed. A few days thereafter, complete recovery was recorded. It is true that one may not definitely attribute the success of this case to carbolic acid, because so many other means of treatment were employed at the same time. However, since, in so many other cases the same means have failed to produce a good result, through apparently the ineffectiveness of their action, it is possible to suppose that if the carbolic acid had not been used, the patient would have died.

Gilbert and Lipmann, at the Society of Biology, Oct. 25, 1902, read a paper on the subject of the bacteriology of cholecystitis. They said in part that the study of 12 cases of cholecystitis, with examination of the fluid withdrawn from the gall-bladder, had led them to believe that the fluid is always fertile, whether the cholecystitis is suppurative or not. In some cases the germs are anaerobic, while in others they are aerobic. The latter are by far the more numerous in the suppurative cases. The microbes, which were the more frequently found of the anaerobic type, are the coli bacillus, the enterococcus, funiculiformi, streptococcus, and the anaerobius perfringeus and radiformis. In the vast majority of ordinary cases the first two germs mentioned in the foregoing list are commonly encountered. The majority of the anaerobic germs seem to have a natural habitat high up in the biliary passages of several animals—for instance, the dog, cat, beef, pig, etc., while, on the other hand, the aerobic germs are especially rare. It seems probable, therefore that in cholecystitis, infection of the first degree takes place from the germs already present, and this is followed or not by a more violent degree through the association of the same germs with aerobic bacteria from without.

Bizard, at the Society of Dermatology and Syphilography, Nov. 6, 1902, presented a case of chronic devious syphilitic phagedenism. He presented the patient in the name of Gaston and himself. The woman had had a chancre of the genital organs in 1890. Ten months later a gumma developed in the right leg, and since that time the patient has almost always had phagedenic ulcers of the skin, which heal up at one point while they progress at others. Over most of her body are to be seen immense, spreading cicatrices, which occupy a large part of the back, the wall of the abdomen, and the left arm. In the left buttock there are now to be seen lesions which are active. One may remark a vast mass of ulcers with a red base, confluent from areas from which tissue has been lost, extremely suppurative, some round, others oval or serpiginous. The general condition of this woman is seemingly satisfactory. She does not present any other organic signs of the disease. Upon her face there is an outbreak, impetiginous in character, presenting suppuration and crust formation, which has continued for nearly three years. She states that she has been under continual treatment for her syphilis, but she seems not to have taken enough iodide of potassium or enough mercury to have given her any relief.

SPECIAL ARTICLE.

REPORT OF THE CLINIC OF PROFESSOR ADOLF LORENZ, HELD AT THE HOSPITAL FOR THE RUPTURED AND CRIPPLED, DEC. 15, 1902.* †

BY LEONARD W. ELY, M.D.,
ORTHOPEDIC SURGEON AT THE ROOSEVELT HOSPITAL DISPENSARY,
AND
DEXTER D. ASHLEY, M.D.,
OF NEW YORK.

THE first public demonstration by Dr. Lorenz of his bloodless reduction of congenital hip dislocation was given Monday, Dec. 15, at 3 P.M., in the operating room of the New York Hospital for the Relief of the Ruptured and Crippled. Temporary seats were arranged in the operating room, and about two hundred physicians witnessed the operations, among whom were many of the most eminent surgeons of the city.

Dr. Lorenz, accompanied by his assistant, Dr. Mueller, entered the arena at 3:10 P.M.

Reading from manuscript in English, Dr. Lorenz first gave a short general outline of his functional weight-bearing method, prefixing his remarks by complimenting the hospital on its staff. At 3:15 the first patient was brought in anesthetized, and placed upon the table.

Case I.—M. S., girl, six years of age. History of a short labor without instruments. The child presented the usual symptoms of left congenital dislocation, including a marked limp and lumbar lordosis, which latter symptom, however, was less marked than usual. Abduction in the affected limb was limited, and it was 1½ inches shorter than its fellow. The head of the femur could be felt upon the dorsum illii, and was approximately of normal proportions, though slightly atrophied.

Professor Lorenz grasped the dislocated limb with his right hand, placing his left over the trochanter and calling attention to the shortening and slight atrophy, and then by alternate relaxation and traction, demonstrated the preternatural mobility in an up-and-down direction and in rotation, and the limited abduction.

Placing a rolled sheet under the pelvis, with his left hand Dr. Mueller made pressure over the anterior superior spine and the perineum, and with the right hand steadied the pelvis by holding the thigh in strong flexion, and abduction of 45 to 60 degrees.

Dr. Lorenz here called attention to the strong adductors and to their contraction, and explained that they offered the greatest resistance to reduction, and that his first object would be to overcome this adduction by tearing them subcutaneously. Standing on the left side of the patient, and grasping the knee with his right hand, with his left making pressure over the origin of the adductors and kneading the tissues at that point, he forcibly abducted the thigh. The adductors were stretched or torn in about 1½ minutes.

The posterior muscles were now stretched by strongly flexing the thigh upon the abdomen, with the knee extended, and the anterior muscles were stretched by strong superextension. A little traction was here exerted to pull down the head opposite the acetabulum. He remarked that in older cases it was sometimes necessary to exert considerable force in this maneuver, but that in this case, owing to the small amount of shortening and the mobility of the joint, this was not necessary.

With the thigh flexed at a right angle to the body, Dr. Lorenz strongly abducted the limb. "Observe," said he; "the rising of the head in what was just now a depression." With slight further abduction the head slipped with the characteristic snap into the acetabulum, the reduction having occupied just three minutes.

The Professor pointed out that while in a traumatic dislocation the work would now be ended, the instability of the reposition in cases of this kind must be overcome by stretching the anterior portion of the capsule by further strong superabduction and superextension. He also drew attention to the fact that both limbs were now of approximately of the same length, the reduced limb, owing to the shallowness of its acetabulum, being if anything slightly the longer; and to the flexion of the knee, caused by the rigid contraction of the hamstring muscles. This, he said, was a good sign, and showed that the posterior muscles had been put upon the stretch by the entrance of the head of the femur into its socket. Their contraction disappeared upon reluxation, and reappeared upon reposition. This contraction, however, must be overcome by repeated forcible extension of the leg upon the thigh. The stretching of these muscles forced the head deeper into the acetabulum. He deepened the acetabulum still more, and stretched the anterior portion of the capsule by forcible abduction. He then laid the child on her side, and by superextension and direct pressure inward and upward he bored into the acetabulum, and stretched the anterior portion of the capsule.

He finally demonstrated the relative stability of the different positions, reluxating the joint by bringing the thigh down into extension by the side of its fellow, and again by adducting it in flexion toward the middle line.

At 3:24, P.M., nine minutes from the beginning of the reduction, Dr. Mueller received the patient from the hands of his chief and proceeded to apply the plaster of Paris dressings.

Upon this plaster bandage, and the method of its application, Professor Lorenz is wont to lay great stress, and with reason. The Lorenz spica differs essentially from the spicas usually seen in this country. It has been described by each of us, in articles in the medical journals, but an exact description of the manner in which it was applied by Dr. Mueller will not be out of place here.

The child was laid with its sacrum upon the pelvic rest, its shoulders resting upon a small, cushioned stool and slightly lower than the pelvis, the reduced limb, held by an assistant, being flexed at right angles to the body and abducted slightly behind the frontal plane. This is the so-called "primary position" of Lorenz. The sound limb meanwhile hung in slight superextension, and acted as a balance to hold the pelvis squarely upon the pelvic rest.

Dr. Mueller first applied a stockinet reaching from the lower ribs to below the left knee. This stockinet, when applied, had the appearance of a pair of drawers with the leg cut off on the sound side. Under this were placed two strips of bandage, one running down the reduced thigh, coming out below and above, the other on the sound side running vertically under the pelvic portion. These are called the "scratch bandages," and by means of them the child's skin under the dressings can be kept in good condition, and, as Professor Lorenz aptly puts it: "The child can be given a dry rub-down twice a day."

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* Through the courtesy of Dr. Warren, House Physician of the Hospital for the Ruptured and Crippled, Dr. Ely was enabled to examine all of these cases before the operation.

† Both Drs. Ely and Ashley were students of Dr. Lorenz in Vienna and are well qualified to give this report.

Taking his stand between the child's legs, Dr. Mueller padded thickly the bony portions of the pelvis, the thigh and the knee with strips of absorbent cotton, in lieu of his usual interlining of sheet wadding, and enveloped this with a bandage, drawing it snugly over the crests of the ilia. Over this he applied his plaster of Paris spica.

This spica included the pelvis and the reduced thigh. It extended from a point just above the crests of the ilia to the knee-joint, being so molded ever the pelvis as to fit snugly over the iliac crests and anterior superior spines. The bridge over the pubes was made especially thick—about one inch—layer after layer being added to strengthen the spica at this point.

Dr. Mueller then deftly trimmed the plaster, using a heavy, sharp scalpel instead of the customary pruning knife.

The upper border in front was made deeply concave, removing all pressure from the abdomen. The lower front border was trimmed to leave a bridge about 2½ inches wide over the symphysis pubis, clearing the perineum, and on the outer side permitting flexion of the sound limb to 90 degrees. At the knee the line of the incision was from the tip of the inner condyle, sloping upward in both directions, exposing the patella, the popliteal space and the outer condyle, and allowing free motion of the knee. The child was turned over and the lines of incision were joined behind, the upper continuing nearly straight across, and the lower trimmed out so as to expose the natal fold and avoid subsequent soiling of the plaster by the child.

With his finger, Dr. Mueller turned out all the sharp edges of the plaster, and brought the stockinet up over the spica, making a neat covering.

The whole work of the reduction and of the application of the plaster showed consummate skill, and was greeted by a burst of applause.

While Dr. Mueller was busy with the plaster, Professor Lorenz continued the reading of his manuscript, the main points of which are summarized as follows:

His first object is to place the head opposite the acetabulum. This is easy of execution in young children, difficult or impossible in older children. All contractions of opposing muscles must be overcome before the reduction is attempted. As the age limit is approached, he is compelled to use preliminary traction upon the leg. He has abandoned the custom of tenotomy, which he formerly practised. The usual age limit for unilateral cases is nine to ten years. In one case he succeeded in a reduction at twenty-three years. The usual age limit for bilateral dislocations is six to seven years.

The characteristic features of his operation are to bring the bones to their normal posture, to keep them there, and to make them do their work.

He leaves on his first cast six months or longer. The duration of the whole treatment is one to two years. The time should be rather longer than shorter. He allows plenty of time for the shrinking and adjustment of the soft parts.

At the end of the first period of fixation the plaster is removed and the leg brought into the "secondary" or more comfortable walking position of moderate flexion and abduction. "Here," said the Professor, "is a time to be cautious. Be slow in bringing the leg to the anterior position. Rather let the child bring it down by its own efforts." In bilateral cases he would be pleased to see slight abduction persist.

While the child was still under the anesthetic, Professor Lorenz put its feet upon the floor and emphasized the importance of exercise during the whole plaster of Paris period. Active and passive motion of the knee must be sedulously cultivated.

After the second plaster spica has been removed, the pelvi-trochanteric muscles must be regularly and thoroughly massaged and special care devoted to the motions of extension and abduction in the hip-joint.

It is necessary to distinguish between anatomical and functional results. It is impossible to get a good anatomical result when the head of the femur is much atrophied, and in these cases he is satisfied with a good functional result. He does not do subsequent osteotomy.

Of a thousand cases, he has had good results in the majority. Observations have shown that while with the open operation the anatomical results may be excellent at the time, the functional results are sometimes very poor. There is a tendency to contraction later, and frequent reluxations also occur.

He paid a delicate compliment to a few surgeons in this country who have done the operation, and alluded to America as the home of orthopedic surgery.

In conclusion. with characteristic honesty and fearlessness, he described the only two serious accidents he has met with—one a tear of the femoral artery followed by recovery without operation, and the other, a case of gangrene by forcing the reduction and pressing the femoral artery between the head of the bone and the plaster.

Case II.—M. D., girl, aged seven years, left congenital dislocation. History of a long and hard labor, version finally being done. Began to walk at fifteen months. One sister also affected with congenital dislocation. Child presented a marked limp. Head a little more anterior than usual, and of good size. Abduction and extension almost normal. Slight lumbar lordosis. One and one quarter inches shortening.

The steps of the operation were the same as in Case I, but the reposition was a little more difficult. Luxation was reduced in 2¾ minutes. The Professor announced that he had a fair stability in this case, and turned it over to his assistant in six minutes after the beginning of the operation. Owing to a lame wrist he gave the third case into the charge of his assistant, Dr. Mueller.

Case III, girl, nine years old, left congenital dislocation. She began to walk at eighteen months, presented the usual limp and a moderate amount of lumbar lordosis. The head of the bone was in good condition, and abduction and extension of the limb were both limited. Shortening of 1¼ inches was present. The child had been subjected to preliminary extension for two weeks. The reposition took two minutes, and three minutes later the application of the bandage was begun.

While admiring the marvelous dexterity exhibited by Professor Lorenz and his assistant, the impression that the ordinary observer carried away might possibly be that the operation was not difficult of performance, and not until he has himself attempted it will he appreciate the obstacles in the way of a successful performance. Those of us who have done it understand that it requires an exact technic not to be acquired without actual experience.

451 West End Ave.

BOOK REVIEWS.

A Text-Book of Pathology and Pathological Anatomy. By Dr. Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition by A. E. Thayer, M.D.; Edited by James Ewing, M.D., Professor of Pathology in the Cornell University Medical College, New York. Lea Brothers & Co., Philadelphia and New York.

The preface of this work sums up the main features in this excellent volume so well that the reviewer feels justified in using very largely the editor's language.

"This work," he says, "stands out among the well-known Continental text-books by reason of its original close adaptation to the needs of students and its progressively closer approach to such requirements in each of its rapidly succeeding revisions. The author has not attempted to compete with the more discursive works of his countrymen, but has endeavored to write a shorter, more compact, but equally comprehensive book, embodying all the important principles and facts that should be brought before students of pathology. There is a notable absence in these pages of the argumentative style, the quotation of authorities and the pursuit of personal opinion—instead of such material there is found in this volume a condensed statement of present knowledge, amplified with a rich array of aptly chosen instances and references."

We have found the book all this and more, and in its present exceedingly attractive form it takes its place as a leader among the text-books of modern times.

PHYSICAL DIAGNOSIS, DISEASES OF THE THORACIC AND ABDOMINAL ORGANS. A Manual for Students and Physicians. By EGBERT LE FEVRE, M.D., Professor of Clinical Medicine and Associate Professor of Therapeutics in the University and Bellevue Hospital Medical College; Attending Physician to Bellevue and St. Luke's Hospitals. Lea Brothers & Co., Philadelphia and New York.

THE elicitation and interpretation of physical signs can be learned only by practical experience, but this experience must be founded upon a thorough theoretical knowledge of the causes of the various signs. In a majority of general practitioners there is a lamentable weakness in their ability to diagnose the more obscure conditions of the chest and abdomen. In some this is undoubtedly due to lack of training but it frequently happens that the mistake is made because the importance of a thorough physical examination is not appreciated and lesions are overlooked which would be easily recognized if one's attention was only drawn to them.

The incentive to write the above book was aroused, it seems, by the insistent "why" which students have so frequently asked of the author, and one of the chief values of the book results from the clearness and completeness with which he explains the reasons for the various normal and pathological conditions. The book, in part, is very elementary, to be of assistance to the novice in physical diagnosis, but it also enters into the discussion and explanation of the more obscure points and cannot fail to appeal to any one interested in this important subject. The illustrations are especially clear and instructive.

PRACTICAL DIAGNOSIS: THE USE OF SYMPTOMS AND PHYSICAL SIGNS IN THE DIAGNOSIS OF DISEASE; Fifth Edition, Revised and Enlarged. By HOBART AMORY HARE, M.D., B.Sc. Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Lea Brothers & Co., Philadelphia and New York.

DR. HARE'S Practical Diagnosis has been greatly enlarged and improved in this the fifth edition, bringing it up to the modern standards of technic for all the practical purposes of the average medical men. It is meant for the practitioner and is for its purpose one of the very best of the works on diagnosis.

The illustrative features in this work have been greatly extended making it much more attractive and helpful, especially in the discussion of diseases of the chest.

The cuts illustrating the various nerve lesions are very admirable, especially the distribution of the various anesthesiæ consecutive to cutaneous nerve lesions.

In its new dress the work maintains its place as a thoroughly modern and practical book on diagnosis.

THE DISEASES OF INFANCY AND CHILDHOOD. For the use of Students and Practitioners of Medicine. By L. EMMETT HOLT, M.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons. Second Edition. D. Appleton and Company, New York.

A new edition of Dr. Holt's book brings with it the vigor and strength of the original with a complete revision of the entire text, making it thoroughly modern in every respect. The changes within the past five years have not been very extensive, yet the many new facts that have come out in the rapidly advancing science of pediatrics have here all received their share of careful and judicial treatment.

The arrangement of the first edition has been kept, it could hardly have been bettered, and the general text, illustrations and book work stamp the volume as one of the very highest rank.

The extremely practical question of infant-feeding, as is well known, has been a subject of special study by the author and one in which medical advances have been made very largely identified with his name. It is a pleasure to find the subject handled in a text-book in a comprehensive and yet common-sense manner.

A more extended analysis would simply involve the reviewer in a continual use of the superlative, for the original high character of the work has been still further enhanced in its new edition.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY. As an Aid in Diagnosis and as a Therapeutic Agent. By FRANCIS H. WILLIAMS, M.D., Visiting Physician to the Boston City Hospital. Second Edition. The Macmillan Company, New York.

WE had occasion to speak in unmeasured terms of praise for the first edition of this work and the need for a second edition three months from the time of issue of the volume is an evidence that the work has been appreciated by the practitioner.

This second edition contains some 40 new pages most of which have been given up to the description of new apparatus. A further extension of the therapeutic uses of the X-rays is given, making this volume the only one in its class. We know of no work in any language that approaches it in any respect.

A MANUAL OF MEDICAL TREATMENT OF CLINICAL THERAPEUTICS. By I. BURNEY YEO, M.D., F.R.C.P. Emeritus Professor of King's College, London, and Consulting Physician to King's College Hospital, etc. Tenth Edition. W. T. Keener & Company, Chicago.

PROFESSOR BURNEY YEO'S work is too well known to need any special commendation. The best index of the appreciation of the medical profession for the book, is to be seen in the fact that in less than 10 years, 10 editions altogether, 15,000 volumes have been purchased.

Professor Yeo's object, when the work was originally written was the study of disease from the point of view of treatment. Notwithstanding the number of medical text-books on the market and the importance of this department of clinical medicine, less almost had been written about it, than any other. Professor Yeo approached his subject from the side of the disease and not from that of the drug or remedy, which had been a popular method of writing works on therapeutics, before. The immediate popularity of his book, justified his selection of method. Now at the end of 10 years, during which he has constantly kept the work up to date, this new revised edition, contains in thoroughly sifted form most of what is valuable in recent therapeutic suggestions. Certain new chapters have been added to the work. These are concerned mainly with hay fever, paralysis agitans, cerebral tumors, erysipelas, cerebrospinal fever, rickets, scurvy and purpura.

In the nearly 1,500 pages of the two volumes there is scarcely a medical subject of any interest which is not enriched by many thoroughly valuable therapeutic suggestions. There is very little waste of words and no heaping up of possible remedies from many different sources, but the discussion of the value of a few with the details of their method of application. It is this manner of writing that has made Professor Yeo's books popular and will doubtless insure the popularity of the present edition. Illustrations are so helpful when methods are new that the reviewer is almost tempted to wonder why a few illustrations were not introduced into this work. The difficulty of course is that already the volumes are large enough for their purpose and illustrations might make them cumbersome, but we think that some of the text might have been spared for the sake of the illustration auxiliaries.

Diseases of the Intestines, Their Special Pathology, Diagnosis and Treatment. By John C. Hemmeter, M.D., Ph.D., Professor in the Medical Department of the University of Maryland. Vol. II. P. Blakiston's Son & Co., Philadelphia.

We have reviewed the first volume of this work of Dr. Hemmeter's saying that it stands out almost alone in its field and so far as we are aware it is the best thing of its kind in the medical literature of the subject.

This second volume amply fulfills the promise of the first. Because of the peculiarly wide scope of the contents we feel justified in touching upon the topics. These are Appendicitis, Tuberculosis, Syphilis, Actinomycosis of the Intestine, Occlusions, Contusions, Ruptures, Enterorrhagia, Intestinal Surgery, Atrophy, Abnormalities of Form and Position, Thrombosis, Embolism, Amyordosis, Neuroses of the Intestine, Intestinal Parasites, Diseases of the Rectum. This last chapter is from the pen of Dr. Thos. Chas. Martin, of Cleveland, and constitutes a worthy addition to a most excellent treatise.

We have no opportunity to critically analyze the various chapters. They are, in short, full, accurate and thoroughly trustworthy. They could not be otherwise, coming from such an authority. The chapter on Intestinal Parasites in particular is the best we know in any text-book.

The publishers are to be congratulated on the choice of illustrative material and on the mechanical execution.

Text-Book of Physiological and Pathological Chemistry. By G. Bunge, Professor of Physiological Chemistry at Bâle. Second English Edition. Translated from the Fourth German Edition by Florence A. Starling and Edited by Ernest H. Starling, M.D., Professor of Physiology in University College, London. P. Blakiston's Son & Co., Philadelphia.

As a foremost exponent of the school of vital physiology the writings of Bunge have always claimed and obtained a wide acceptance. Their English dress is then the more acceptable since the original German is denied so many of our medical students.

The fashion of translation is, we believe, a good one; not that intrinsic facts cannot be stated by one writer as well as another, but behind and beyond the array of truths found in a text-book there is a living author, and when such an author occupies the rank and position of the present one the student gets more than mere facts.

The present edition is to be commended very highly from the translation standpoint. It has been well done and the author's thought has been well presented. Further than this the scope of the author's work is such that no thinking student can study such a treatise without a feeling of great stimulation to test and "prove all things."

The work is of the kind which we specially desire to commend. It is not a hack treatise filling so many pages but a book full of meat.

Traité de Médecine et de Thérapeutique. Par P. Brouardel, Professor à la Faculté de médecine de Paris, et A. Gilbert, Professeur de thérapeutique à la Faculté de médecine de Paris. Tome Dixieme. Maladies des Nerfs Périphériques, Névroses, Maladies des Muscles. Par M. M. Pitres, Vaillard, Gilles de la Tourette, Gasne, Grasset, Rauzier, Triboulet, Lannois, Lamy, Sainton, Brissaud et Marinesco. J. B. Bailliere et Fils., Paris.

The appearance of the tenth volume of Brouardel's and Gilbert's Traité de Médecine closes this most noteworthy series of volumes. As one of the most recent treatises on the general subject of medicine it is also one of the clearest, most comprehensive and best. While it lacks the monographic completeness of a recent German contemporary it covers the field of practical medicine most commendably. This volume also concludes the study of the diseases of the nervous system and also takes up diseases of the muscles.

The names of the authors are a sufficient guarantee that one will find a thoroughly modern treatment of the various sections.

Pitres, Professor of the Faculty of Medicine of Bordeaux, has written the chapter on Diseases of the Peripheral Nerves in collaboration with Vaillard of Val de Grace. It is a singularly lucid and suggestive chapter.

Hysteria and Hypnotism are discussed by Gilles de la Tourette and Gasner; the Tics by Dr. Triboulet, Grasset and Rauzier, Professors in the University of Montpellier have contributed chapters on Epilepsy; Eclampsia of Infants (Infantile Convulsions, Tetany and allied states) is by M. Lamy. Brissaud has taken up Neurasthenia, Migraine and Ophthalmic Migraine, while Marinesco has contributed the chapters on the Myosites and the Myopathies.

The French school have been so active in the elucidation of just this class of maladies that their discussion in a book of this character is greatly welcomed.

The features which have rendered the French teachings so valuable, namely their comprehensiveness and their arrangement, are found in this volume in marked degree. It makes a splendid ending of a grand undertaking.

Dictionary of Philosophy and Psychology. Written by many hands and edited by James Mark Baldwin, Ph.D., Hon. D.Sc., Hon. LL.D., Stuart Professor in Princeton University. Vol. II. The Macmillan Company, New York.

This second volume completes the dictionary proper, the third volume being reserved for the historical and biographical sketches. It is truly a fine performance, and as we have already expressed ourselves, the medical practitioner can profit from the work fully as much as the philosopher or psychologist.

In a true sense the student of medical problems is a philosopher and given the proper understructure, his life-work can engender a philosophy that is sound and useful. Such a work as this is invaluable in showing him very quickly what the great thinkers of the world have thought on the broadest of life's problems, and the small ones as well. This facility of reference, combined with accuracy of statement makes the work particularly commendable. It will remain a classic for many many years; indeed we do not see that it can ever outgrow a certain very wide and deep usefulness, not only for the student of these special lines but for the thinking man, technical or lay. We can most heartily commend it to our readers.

Clinical Methods. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., Assistant Physician to the London Hospital for Sick Children, Great Ormond Street, and Harry Rainy, M.A., F.R.C.P., Eng., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. Fifth Edition. W. T. Keener & Company, Chicago.

This little work, over 8,000 copies of which have been sold since September, 1897, is a typical English manual. To say that means that it is eminently practical, that it is conservative, that it is complete, and that it is really handy. It contains in brief, an immense amount of very useful information. It is not ambitious looking, yet many text-books of larger size do not contain anything like the same amount of information. Perhaps there is a tendency noticeable in the book to make certain very recent medical advances, especially new methods of diagnosis, appear almost too easy. There are many bits of technic, readily intelligible once the reader has seen the method carried out in actual practice that yet are very hard to grasp from a mere printed description, even when illustrations are added. The illustrations, while mainly diagrammatic, always convey accessory information of value. The book will prove of great assistance to American practitioners.

Practical Dietetics. With Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City. Second Edition. D. Appleton & Company, New York.

Thompson's dietetics was in sore need of a thorough revision, for, while it was a large volume it was a most indigestible one and for a writer on dietetics to serve such a conglomeration of facts, fancies and fallacies was adding insult to injury.

We are glad to note, however, that the facts have been largely augmented in the present volume—many of the fancies still remain and give the work what semblance of individuality it possesses and most of the fallacies have been eliminated.

The work is really a very excellent one and is marred only by its too great leaning on statistical facts, the relation of which is in many instances lost. The first table that caught the reviewer's eye was that of König's on mushrooms. König is of course the main prop of all modern writers on dietetics when they would seek their chemical underpinning, but one must know about variations and different varieties of plants and animals or else König's figures are sadly misinterpreted. The author's statement about truffles being a vegetable is interesting and his characterization of poisonous fungi as being warty is more than amusing; it is farcical.

There are but few of these antiquities in the book however—they are but motes, for the work as a whole is both sound and satisfactory.

In the early chapters the reviewer would like to see a fuller discussion of the relation of water and the inorganic salts and to dissociation of the active ions and their action on the body tissues, a field frequently that has great practical relations to the subject of practical dietetics, especially in the treatment of some of the disordered metabolisms; Arthritis deformans, gout, diabetes, etc., in which latter subjects much of the old time empiricism is here preserved.

We can most cordially commend the work to our readers as practical and sound and would like to see it, in a future edition, brought into line with our most advanced knowledge of physiological chemistry. It would then be the superior of any of its class in the market.

Anatomical Researches on the So-called "Prostatic Hypertrophy" and Allied Processes in the Bladder and Kidneys. By Stanislaus Ciechanowski, Assistant Professor of Pathological Anatomy, University of Krakau, Austria. Edited by Robert Holmes Greene, A.M., M.D., Surgeon to the French Hospital, etc. E. R. Pelton, New York.

The author's main thesis shows that much of the bladder trouble of men, and women as well, is not necessarily the result of an hypertrophied prostate, for many old men do not have hypertrophied prostates and further many hypertrophied prostates do not cause any special urinary disturbances. The general factors of arterio-sclerosis are of more importance in the effects of the process on muscular disintegration than is an enlarged prostate.

The author then reviews from a rich pathological experience the various factors concerned in the development of the senile bladder.

Dr. Greene has made a very readable translation of this intricate and yet very important topic and this small brochure can be most heartily endorsed as giving the latest results of research on this subject.

Manual of Gynecology. By Henry T. Byford, Professor of Gynecology and Clinical Gynecology in the College of Physicans and Surgeons of Chicago; Professor of Gynecology in the Post-Graduate Medical School of Chicago and in the Chicago Clinical School, etc. Third Revised Edition. P. Blakiston's Son & Co., Philadelphia.

The well-deserved success with which the two former editions of this book have met, justify the preparation of this third edition. The merits of the book are so well known that it would seem but idle waste of time and ink to repeat them.

The general plan of the volume has been changed for the better. Anatomy, physiology and the general considerations of the diagnosis and treatment of gynecology have been brought to the front of the book and put in with the Introduction.

The marginal notes make it possible to see at a glance the contents of a paragraph, and thus render easy the reference to a desired subject. These marginal notes are very clear and terse, and are excellently arranged.

As a manual the book is a success; it complies with all the requirements of such a volume, and does it in a clear and concise manner. We recommend it to the general practitioner as such, with the assurance that it will satisfy the demands made of it. The illustrations are not lavish in number, but are sufficient for the needs of the text.

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ORIGINAL ARTICLES.

RECENT ADVANCES IN ELECTROTHERAPEUTICS.*

BY WILLIAM J. MORTON, M.D.,
OF NEW YORK;
PROFESSOR OF ELECTROTHERAPEUTICS AND DISEASES OF THE MIND AND NERVOUS SYSTEM, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE medical electricity of to-day bears little resemblance to that in vogue only a brief decade ago. Time was, and that but a few years since, when so-called galvanism and faradism held complete sway in the ordinary medical mind. Galvanization and electrolysis—faradization and mechanical action—together with a mummery of metaphysical abstractions, were the shibboleth of conscientious practitioner and charlatan alike. This state of affairs was convenient for those in medicine and surgery, who, unwilling to inform themselves, could thus relegate electrotherapeutics to the hospital nurse, and equally convenient for the charlatan, who was thus invulnerable in his veil of mystery. But ignorance could not forever rule in the scorching light of the progress of modern science. Industrial and commercial needs forced electricity to its most strenuous paces and soon the infant electrotherapeutics followed after and grew stronger. First medical electricity was put upon a purely physical basis, then new methods crept in and finally to-day, we are on the eve of the broadest sort of generalizations which include electricity as a physical agency in the same category as light and heat and medicines themselves. For light and heat are but ether vibrations, as is also electricity, and the effect of medication by drugs would seem to be due to the free ion whose positive or negative charge determines its qualitative action.

The greatest real advance in recent years in electrotherapeutics has been the increased and increasing use of high potential electricity. True, the "static machine" in one form or another had long been with us, but its meaning of elevated potential was little understood until the further element of high frequency was added. This meaning was only extracted from it when its output was converted into current phenomena, first brought to notice by the writer in 1881 and again in 1891†, under the name of the Static Induced Current and later on brilliantly demonstrated by Tesla, D'Arsonval, and Elihu Thomson. From this time on the high potential currents have come to stay in electrotherapeutics—various mechanical variations and modifications for their production are continually made and their classification and physiological effects are zealously studied. Foremost in these studies and promulgations are the professors and their associates in the various universities in France and members of the Sociéte Française D'Electrothérapie.

The real advance then in electrotherapeutics is due simply to the elevation of the electromotive force of the applied electricity and to its oscillations or alterations. In short we refer to the "high frequency, high potential current," originally introduced, as has been remarked, under the name of the static induced current. Modified forms of apparatus for the administration of this current, namely the Tesla transformer or the D'Arsonval solenoid are both transformers of the static induced current. They elevate its potential though at the same time reducing its frequency. The Oudin Resonator constitutes a most beautiful and practical utilization of the same current also elevating its potential. In using these currents and transformers the static machine is often replaced by the Ruhmkorff coil, but it is immaterial except as to convenience whether one or the other be employed to charge the condensers necessary to the production of this current.

The first great change which the use of the static induced current and its modifications produced in the practice of electrotherapeutics was the electrification of the entire human organism at one and the same moment in contradistinction to the older methods of local application. From this resulted a profound modification of the patient's metabolism and as a consequence electrotherapeutics has now sprung from the position of a local to that of a general treatment. D'Arsonval has shown that the high potential high frequency currents produce an increased output of heat, of water, of carbonic acid, of phosphates and of urea; in short the oxidations or combustions are increased and tissue metamorphosis accelerated. Thus the new order of electrification is applicable to general and constitutional conditions and is found to be especially useful in diseases of perverted and defective nutrition like rheumatism, gout, obesity, anemia and general diseases of malnutrition. Aside from the older methods of franklinization namely the spark and breeze or spray, which still have their vogue and their value, and whose increased use constitutes a portion of the recent advance of electrotherapeutics, the newer methods are:

(1) The static induced current; (2) the wave current (a phase of the static induced); (3) the Tesla transformer of the static induced; (4) the D'Arsonval transformer of the static induced; (5) the Oudin resonator.

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* Read before the American Therapeutic Society, June, 1902.

† New York Medical Record, April 2 and 9, 1881.
Ibid. Jan. 24, 1891.
Report of the Special Committee on the Static Induced Current, Tenth Annual Meeting of the Am. Electrotherapeutic Association, Sept. 27, 1900.

Of these, the first, the static induced, is more local and direct in its appplications, but reaches at the same time a far greater extent of tissue, owing to its potential and consequent diffusive power, than the galvanic and faradic currents. The second is almost entirely general, but may be either local or general, and the same remark applies to the transformed currents of Tesla and D'Arsonval. The Oudin resonator enormously increases the difference of potential of high frequency currents and in itself creates a new field of application of high tension electricity, especially in local treatments and reactions.

The transformed currents may be administered: (*a*) directly either by a single wire or by two conducting wires and electrodes from the end of the secondary solenoids or following the teachings of D'Arsonval; (*b*) by means of the "condenser couch," in which case, the patient, reclining upon an insulating septum, himself forms one conducting layer of a condenser system whose other layer is a metallic sheet, this condenser system being now attached to the secondary solenoid; (*c*) by means of a huge solenoid cage, within which the patient sits or stands, the solenoid being actuated in the usual manner. This method is termed "autoconduction."

An extremely important advance in the use of high potential currents is the use of the brush discharge (effleuve). In various skin diseases this has been proved to be of great utility. It produces a vasomotor dilatation and increases the defensive reactions of tissue. It produces ozone locally and its violet light, in intimate contact with all organisms, may have much to do with its powerful effects. It is useful in neuralgia, pruritus, psoriasis, eczema, lupus, etc. It is a pity that the dermatologists should not take up this interesting branch.

Still another advance in this connection is the use of the vacuum or Geissler tube as advocated by Prof. Leduc of Nantes, France. From this not alone is the violet radiation obtainable but also an extremely efficacious high potential current discharge. It may be constructed in innumerable forms, as electrodes for external and internal applications. All of these currents and effects may be obtained from a powerful static machine, using the static induced or wave current connections as I have already described, or by using a Ruhmkorff coil with step-up transformers to the static induced mechanism of Leyden jars or by several other mechanical devices, notably the rotary transformer. All that is required is a special means for discharging the potential difference which has at the same time been raised in electromotive force.

Finally, and not least, among recent advances in electrotherapeutics must be counted the remarkable effects of the actinic rays, the Becquerel radiations and the X-radiation of Roentgen upon tissue, producing a cure of diseases long since found to be least amenable to other forms of treatment. This remark applies notably to the cure of cancer. It has been long believed that the sun's rays were reflected and absorbed at the surface of our bodies. But we must now admit that the actinic portions of the sun radiation actually penetrate our bodies, for recent experiments have shown beyond question that these actinic rays as emitted from a powerful arc lamp may be caused to pass through our entire bodily mass and act upon a photographic film on the other side. In doing this some of their energy is absorbed and is doubtless transformed into chemical energy. The penetration of the X-ray is of course a foregone conclusion and its energy is probably likewise transformed into chemical energy. The interesting generalization naturally follows that in accordance with Nature's laws of evolution the sun's actinic radiations are a needed internal stimulus to animal tissue. It is more in accordance with the facts to explain the effects of the radiation treatment of lupus, cancer, etc., in this manner than to presuppose an actual bactericidal action of the radiation.

In conclusion I hardly feel that I have touched, with more than the lightest touch, upon recent advances in electrotherapeutics. In electricity are bound up, in one manifestation or another, the profoundest problems of matter, and as slowly the scroll of electrical physics is unfolded, so also slowly, but with deep meaning, are the problems of electrotherapeutics presented to our study and admiration. The apathy of the medical profession in this country toward this branch of the art of healing is incredible. For we must now admit that drug action is as much physical therapeutics as is electrical action, and that neither should exclude the other but both be equally studied and respected. But this end cannot be attained until the medical schools of our land provide a chair or professorship or other adequate means for teaching the modern relations of electricity to medical practice. The day for such action on the part of our medical colleges should not be far distant.

IMITATION, SUGGESTION AND SOCIAL EXCITEMENTS.*

BY JOHN BESSNER HUBER, A.M., M.D.,
OF NEW YORK.

THERE are literally hundreds of peculiar movements in vogue nowadays; generally speaking, each of these is founded upon an idea or ideas which are at variance with the standards set many centuries ago by reason and common sense. For example, there is a cult which numbers, it is declared, more than a million adherents; it is characterized by many odd features, not the least odd of which is that its devotees call themselves Christian Scientists. "It is nonsense," these ingenuous people tell us, "to consider that our bodies can ever be sick, for the very simple reason that we really have no bodies at all." Some of their fundamental tenets are the following: "All is mind and matter does not exist;" "the senses are a lie;" "mortal mind is error."

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* Read before the Society of Medical Jurisprudence of New York City, November 10, 1902.

On a Sunday afternoon some time ago there was a gathering of Christian Scientists at the Metropolitan Opera House in New York City. The immense auditorium was filled with people, four-fifths of whom were women, who heard a young man give the lie to the wisdom of the ages. It was one Mr. Carol Norton who did this. Now, in order to attend this lecture, the lady adept of Christian Science, let us say, took what she would consider an unsubstantial car, which brought her to the imaginary door of a non-existent opera house. Here she found it absolutely necessary to rely upon one sense to take her into the presence of an incorporeal lecturer, upon another sense to find for herself an immaterial seat, and upon a third sense to become cognizant of the lecturer's statements, which she holds to be irrefutable truth, but which emanated from the lecturer's mortal mind, and were then conveyed, by means of her senses, which she declares are a lie, to her own mortal mind, both of which mortal minds are in her logic incapable of apprehending any truth whatever. "Here's a state of things" which eclipses the most absurd of Mr. Gilbert's comic-opera topsy-turveyisms.

The hearer may suppose that these must be very dull, stupid people, these Christian Scientists. Many of them are; but very many of them are not—are on the contrary very bright people and very well educated. This brightness will, no doubt, be found by the observer to be rather superficial, but not more so than the average intelligence, even in these times, when so many libraries and other incentives to self-culture are bestowed upon us that no one has any excuse for not being intellectual.

I had the pleasure of being present one afternoon at a meeting of Christian Scientists. They were very charming people indeed; and although I came off a little bit dazed, I could easily have imagined myself in the midst of an audience assembled to enjoy—well, for instance, a Kubelik recital.

However, this paper is not on Christian Science. I simply wish to make of this cult an illustration (later I will submit others) of the manner in which the mind of the individual may, under the influence of certain factors, undergo a departure from the normal. And among these factors I should like, in this paper, to consider Imitation, Suggestion and Social Excitements.

Let us, to begin with, contrast the normal individual in the ordinary circumstances of life with him or her who has become subject to such peculiar influences. The former is a being who perceives, remembers and associates ideas. He extracts from his past experiences whatever has been salutary in them and applies the deductions made to such new circumstances as constantly arise. When he has occasion to look into the future, he makes use of the knowledge gleaned from the past in shaping his course. He judges, he deliberates. He reaches reasonable conclusions, upon which he acts intelligently. By the time he has reached maturity, he is likely to have formulated for himself a philosophy of life and a religion; and upon these he bases his conduct. Bounded within very wide, but nevertheless distinctly defined limits, his course is coherent and rational. He has found his place in the universal scheme, has come to understand his destiny, and is experiencing the contentment resulting from such knowledge. He has a wholesome appreciation of the relation of men and things. Truly, in his conduct he largely reflects the life about him. He typifies the civilization of his time and he reflects its spirit. But he is not merged completely in his environment. He permeates it more or less, and impresses his own personality upon it. He aids, consciously or unconsciously, in his own and his environmental evolution; and he is intolerant of and helps to withstand retrogressive tendencies. In short, he represents the latest step in evolution. In him the highest brain centers, those concerned with memory, association, ideation, reason, intellect, are most developed, and it is they which dominate his life and his conduct.

Such a man has passed upward and beyond the evolutionary stages represented by the savage, and the creature whose development has been arrested. These latter are practically incapable of abstract thought. In them the higher brain centers are undeveloped. Their conduct is dominated by lower and more primitive centers; it is unreasoning, passionate, impulsive, imitative and instinctive. Uncontrolled emotion characterizes it.

The changes produced in an intelligent individual by hypnotism illustrate fairly well these differences, which I have set forth. Before hypnosis, he is in full possession of all his faculties; he is "king of all that is under his own hat." By hypnotism his higher brain centers are inhibited or held in abeyance; for the time being these centers are out of the circuit. The hypnotizer may then influence at his will the subject through the lower, less developed and more primitive centers. The subject then obeys him as implicitly as if he were a child or an uncultivated savage. According as the hypnotizer wills him to, he gives expression to the basal emotions—fear, hate, rage, blind devotion, blind reverence for unworthy objects. He exhibits the primitive instincts of cruelty and the desire to kill. He laughs or weeps immoderately without occasion. Whatever ideas are suggested to him, however absurd they may be, become his own. Whatever he is told to do, no matter how foolish it may be, he does. He has lost all power to reason. He has become a mere machine in the hands of another. The hypnotizer pictures to him mental images and he sees them, although there are no objective realities to represent them. It is intimated to him that there are noises, and he hears them, although there are no such noises. He tastes, smells, acts in all things as his hypnotizer wills him to.

There are then certain factors which may produce in the individual the same results as hypnotism does. These are mainly imitation, suggestion and the force of inordinate social excitement. Under these influences he loses the power of calm observation, of logical thought; he becomes nondeliberative and impulsive. He has, for the time being at least, undergone reversion. He assimilates readily the ideas of others, however unreasonable they may be, and he proceeds in accord with those with whom he has associated himself.

The word imitation need not be defined. The Century Dictionary defines suggestion as "the insinuation of a belief or impulse into the mind of the subject by any means, as by words or gestures, usually by emphatic declaration." The art in suggestion lies in the ability to present an idea in such a persuasive, convincing and apparently probable light as to command the assent of the subject. The process is well represented in the everyday expression: "What made you put that idea into his head?" The Christian Scientist works by means of suggestion when he strives to impress upon the disciple that he must "hold the thought" so and so. The essential difference between suggestion and hypnotism is that in the latter the subject arranges beforehand to submit to hypnotism. He is generally fully aware that he is about to undergo the process. Suggestions are more often than not implanted in the subject's mind when he is unaware of the transference. The act of reception may be involuntary. In suggestion the subconscious mentality often receives an idea to which the conscious mentality may be oblivious.

Masses of people may by these three factors be impelled to demonstrations altogether worthy. Le Bon, in his book, "The Crowd," gives instances to this effect. One that occurs to me is the popular behavior during the kidnapping and recapture, several years ago, of a very little daughter of modest, unknown parents. Throughout the country people gathered in crowds and manifested the greatest indignation. The excitement spread until, when the child was found and returned to its parents, there was jubilation over all the country, from New York to San Francisco. Great crowds gathered in the street in which this home stood. They cheered tumultuously, and again and again required that the mother appear at the window and hold up the little girl who had been restored to her.

Examples of the baneful influence exerted by these factors will be recalled from everyone's reading and experience. As simple an instance as may be of the influence of imitation is to be found in the act of yawning. A familiar test is to yawn in a street car. The people in the opposite seats who see the yawn will presently yawn themselves. While writing this I have stopped to yawn. And I doubt not that at this moment some of my hearers are suppressing a yawn, in consequence of these suggestive statements if for no other reason. The protean manifestations of the disease called hysteria generally result from imitation and suggestion. Medical students are very apt to consider themselves suffering from any disease which for the time being occupies their attention; and an examination by their professor is often required to dispel the illusion. The following rather overworked example—I have seen it in print several times—is very apropos here: A Washington newspaper correspondent, writing of a recent Congress of the Daughters of the American Revolution and its disorderly meetings, says "It is the unanimous opinion of those who have attended the Congress that, while the Daughters of the American Revolution, individually, are nearly all intelligent, refined and attractive women, collectively they are an uncontrollable mob."

In dipping into Plutarch recently, I came upon this: "Many historians have described this battle; but Xenophon has done it with such life and energy that we do not read an account of it; we see it, and feel the danger."

I recall my sensations when, as a private in the Seventh Regiment, I obeyed for the first time the order to "charge with a yell." I had but lately been advanced from the "awkward squad" to the full company. Beginning at the furthest side, we were to run as fast as we were able across the vast floor of the armory, with bayonets fixed, and yelling our utmost, to the wall opposite. Of course, no men were there to engage us; there was only a wall, above which was a balcony. This was mostly filled with bright-eyed girls, whose mellow, winsome smiles generally accomplished the business of straightening our shoulders and bringing the flush of soldierly pride to our cheeks. The situation was one in which a man would do his utmost to appear the opposite of asinine. However, we were to rush madly upon an imaginary enemy, yelling like demons the while. The proceeding appeared to me inane in the extreme. And, upon the order being given, I advanced in an apathetic lope, emitting an altogether unconvincing sound, and handling my rifle with the airy grace of a dancing bear balancing his pole.

But before I had half traversed the ground, all this self-consciousness was lost. I saw the officers shouting to us, brandishing their swords above their heads and urging us forward. My fellows were yelling furiously, and were each trying to outrun the rest. The reverberation from the shouting and running was tremendous. I became greatly excited. I rushed with all the speed I was capable of, yelled with all my might, and finally collided violently with the wall.

In the ranks with me were a clergyman, a theological student, several physicians, lawyers, brokers, all ordinarily level-headed business men, and a magazine writer of note. It would be difficult to find anywhere, outside the Seventh Regiment, a company of men of average physical health and mental poise equal to ours. However, in chatting afterwards with my fellows about this sham charge, I found that the emotion of fury and the combative instinct, which grew upon them as they advanced in the charge, were akin to mine. And I have read that, in sham battles after such charges are ordered, soldiers have often to be prevented from inflicting substantial injuries upon one another, so easily is the primitive war instinct aroused. There was really no need to adopt the proposal of a Russian general of realistic tendencies that in sham fights one soldier in ten should be provided with full instead of blank cartridges, so that zest and verisimilitude might be given the ceremonies.

The anti-Semitic mania in France which resulted in the Dreyfus affair well illustrates the influence of these factors. Those of us who had not been drawn into the anti-Dreyfus maelstrom, realize that there had not been established the slightest proof of crime against this man. The persecution of him was prompted by primitive, brutal, unreasoning race instincts. Freed of the influence of social and racial afflatus, the isolated Frenchman, who is as much a lover of fair play as is the citizen of any other country, would surely acknowledge this stupendous injustice.

Some time ago a negro shot a policeman who attempted to arrest him. His having to pay the full penalty for this deed was as certain as any human event could be. Nevertheless a race riot ensued. Absolutely harmless, industrious, law-abiding negroes were struck with deadly weapons and stamped upon, and innocent colored women returning from their work were shamefully attacked. Street cars on crowded thoroughfares were stopped and inoffending negro men and women were dragged from their seats, over the laps of other people. and were nearly murdered by brutal mobs. Next morning these whites, upon calm reflection, must have wondered how they had come to be seized with such insensate frenzy. And this happened, not in any one of our Southern States, but in New York, the most advanced and most representative of civilization in the Western Hemisphere.

It is said that certain Englishmen, while exploring, or during military service in the heart of Africa, became guilty of most inhuman conduct. These men were at home looked upon as gentlemen of the finest caliber. And so they surely were—in England. But amid their barbaric surroundings, and being no longer held in by the restraints of civilization, their finer sensibilities were paralyzed, and they themselves reverted to primitive conditions. The brief careers in the French Soudan of Captains Voulet and Chanoine are worthy the attention of the student of human evolution. No doubt both these men behaved very well indeed while in France and at home. The latter was, I believe, a member of a very old family, aristocratic in the best and loftiest sense. Yet under their environment in Africa they became guilty of barbaric cruelties. A native was beheaded because he declared he did not know a road about which he was being questioned. Voulet is said to have captured 80 natives. among whom he killed 20 women and children. Chanoine burned a village and captured 20 of its inhabitants, 10 of whom he killed, placing their heads upon pickets. Both these men were eventually killed by the Africans. It has taken many centuries for mankind to advance from savagery to civilization; yet complete relapses are practically instantaneous.

Missionaries to the Chinese have in various localities in that country spent many years in improving the condition of these people and in uplifting them. They have established schools for the better education of Chinese children. They have, by persistent teaching through long periods of time induced them to substitute for superstition the habit of accounting for physical manifestations upon scientific bases. They have taught them the value of sanitation, hygiene and clean living in producing health and happiness and in dispelling disease. They have established hospitals upon modern principles. They have nursed the sick with devotion and made them well with consummate skill. They have practised surgery with most marvelous results. The missionaries have really won the hearts of these people by their loving kindness, their self-abnegation and by the lofty altruism they evidenced. Then of a sudden some blatant creature among these people, probably more ignorant than most of his fellows, will harangue them. The result will be as if a thunderbolt came out of a clear sky. His demagogic appeals will incite them to frenzy. All that has ever been done for them, the many years of work in their behalf, will be forgotten on the instant. Within the hour, as a child would by a wave of the hand demolish a house of cards, these people will destroy the schools, set fire to the hospitals, kill, if they can, their benefactors, and revert to their savage condition of many years before.

We will find in a consideration of certain religious revivals of the century just ended a phase which I have not yet touched upon. This is the exhibition of eccentric physical phenomena by the people taking part. These are no whit less remarkable than those recorded of such "religious" movements in other centuries. During such revivals in Kentucky 20,000 people, men, women and children, were gathered together in a single camp at one time. Dr. Davidson, in a history of this revival, wrote: "The laborer quitted his task, age snatched his crutch, youth forgot his pastime, the plow was left in the furrow, business of all kinds was suspended, bold hunters and sober matrons, young men, maidens and little children flocked to the common center of attraction." Prof. Patrick, in a paper on The Psychology of Crazes* presents a graphic description: "The interest in these meetings spread in true epidemic form. The emotional tension was very great. A boy perhaps would spring to his feet and begin to rave, or some over-excited person would utter a piercing shriek, or a cry of triumph, and this would be the signal for a general hysterical outbreak, accompanied by many remarkable physical symptoms. Of these the most common was falling in convulsive spasms, jerking, dancing, barking like dogs, fainting, crying, singing, praying and cursing. Sometimes whole companies were seized with uncontrollable laughing fits, called the holy laugh. At a meeting in East Tennessee six hundred began jerking at one time. In many instances sensibility would be lost and the extremities would be cold, while the face was flushed. In some places the sufferers were laid out in rows and squares in the churchyard, until they should recover." Many of these scenes were repeated in the great revival that swept New York and the Middle States beginning in the year 1832. As an example of reversionary morals in this epidemic, we may notice the fact mentioned by Albert Rhodes that "in response to visions many men put away their own wives and took others from their neighbors."

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* Popular Science Monthly, July, 1900.

In these revivals the same forces were at work —imitation, suggestion and social excitement. The muscular movements were due either to congestion, that is, excessive determination of blood to the centers which control the muscular movements of the body, or to nervous explosions at the motor centers. Their form was determined by imitation and suggestion from the action of others. The individual had become a mere machine that could be worked upon. These aberrations of the motor centers were attended by and themselves occasioned, an inhibition of the higher centers, so that reason, will, common sense and decent self-control were paralyzed. For the time being excessive, uncontrolled emotion had full sway.

Then there were the fearfully exciting influences of human shrieks and cries, and of the bedlam brought about by all the various distracting elements. Rough and loud-voiced speakers who were likely to possess a magnetism such as is often found in men who are rude and of stunted intellect, were most listened to. Coherent and self-contained speakers received no attention.

The moral irregularity characteristic of such epidemics was fully displayed. Changeableness, impropriety, fanaticism, blind devotion to demagogic leaders, erratic religious impulses were all there. The instinct of religion is primitive and fundamental in man's nature. It has its root, as we know, in our dread that death is possibly another name for total annihilation; that perhaps at death, as we see it, the soul as well as the body may be destroyed. The doubt inherent in this is impressive enough to us when we are normally minded; it becomes awful and terrifying in periods of morbid excitement, and helps greatly to intensify emotional insanity in these religious revivals.

A crowd, then, by way of résumé, be it a jury, a society, a legislative assembly, or a labor union, is an entity not at all analogous in its psychism to that of the individuals who compose it. It cannot be depended upon to reach conclusions by the same processes that the self-poised single reasoner employs. With the crowd the emotions hold full sway; and reason and intellect are set aside. Le Bon, to whom I have already referred, states that: "The mental quality of the individual in the crowd is without importance. From the moment they are in the crowd the ignorant, and the learned are equally incapable of observation."

And it would seem that the behavior of the crowd does not in our day differ greatly from that which it has exhibited in times past. Whatever differences there may be are of degree rather than of kind. By means mainly of the factors we have considered have come to pass the crusades instigated by Peter the Hermit, the children's crusades, the Massacre of St. Bartholomew, the Dancing Manias of the Middle Ages, the witch persecutions, the tulip mania in Holland, the French Revolution, epidemic religious revivals in all countries, notably those in America in the time of the elder Edwards, the South Sea Bubble, the Mississippi Scheme, and the countless like movements with which the pages of history are crowded.

I have not presented, nor should I have been able to present, a full exposition of these factors, —imitation, suggestion and the influence inherent in social excitements; their nature is indeed not thoroughly comprehended. Modern psychology and modern philosophy are, however, investigating them with deep interest; and the study of them should surely be very fruitful and useful. One consideration which stands out conspicuously, is the influence which great individuals have exerted upon their fellows. It would seem indeed that whatever progress the race has made has been achieved mainly through the efforts of individual men, isolated altruists, in whom the *Wille zum guten,* the striving after the ideal, has risen above the *Wille zum leben,* the merely animal will to live, no matter at what cost to others. And real progress, it would seem, is achieved only when individual men of character, who are able to withstand the hypnosis that has seized upon their fellows, can influence them upon moral, altruistic and religious lines.

In conclusion, I trust that I have not prescribed a pessimistic picture. I set out in this paper to indicate unwholesome tendencies, but I have nevertheless also indicated that the factors we have considered work for good as well as for evil; in point of fact, they generally work for good. Broad observation makes it evident that the universal tendency, in nature and in mankind, whether considered as peoples, or as communities, or as individuals,—is in the direction of health, spiritual, moral, mental and physical, and away from disease.

Two Cases of Twin Pregnancy, With One Fetus Developing in the Tube.—In both cases of Vasten (Bol. Gaz. Bolk., No. 40, 1902) there was performed a laparotomy for a tubal pregnancy. One of the patients miscarried the uterine fetus 10 days after the laparotomy. The other patient continued the uterine pregnancy and six months after the laparotomy gave birth to a healthy child. The confinement was perfectly normal.

CUTANEOUS ANGIOMATA AND THEIR SIGNIFICANCE IN THE DIAGNOSIS OF MALIGNANT DISEASE: A STATISTICAL STUDY BASED UPON THE OBSERVATION OF NEARLY FOUR HUNDRED CASES.

BY DOUGLAS SYMMERS, M.D.,
OF PHILADELPHIA.

Within the past few years certain physicians of the German school have drawn attention to the association of cutaneous angiomata with malignant disease, more particularly carcinoma, and have advanced reports, based upon fairly extensive observations, to substantiate the view that the existence of these tumors in the skin is suggestive of malignant degeneration in some portion of the body.

Among the first, if not indeed the first, to observe this condition and to consider it in connection with malignant disease was Holländer, whose paper, published two years ago in the *Deutsche medicinische Wochenschrift,* attracted apparently little more than passing attention. In addition to Holländer, Israel, Lagenbeck, Freund and other surgeons are mentioned as having noted the same condition and to have ascribed to it a like significance. Only within the past few months, however, has the subject excited sufficient interest to warrant the collection and publication of comprehensive statistics. This has been done in Germany, to the language of which country the literature of the subject is almost exclusively confined.

Leser[1] then drew attention to the presence of these neoplasms in the skin and urged their acceptance as an associated phenomenon of malignant disease, claiming that he had observed them with sufficient frequency to warrant the belief that further observations would lend diagnostic value to their presence. These cutaneous angiomata may be described as slightly elevated, more or less sharply circumscribed bodies which vary in size from a mere point to a small seed, bright red, bluish or purplish-red in color, painless, and not yielding to pressure for the reason that they are almost, if not entirely, cut off from the general circulation. They are most frequently found upon the trunk, less frequently upon the extremities, rather commonly upon the cheeks, forehead and scalp, and practically never upon the hands or feet. The German statistics refer to their rather common occurrence upon the lips. However, among 700 insane patients who were examined in the Philadelphia Hospital with particular reference to this point, the condition was not noted in a single instance.

Holländer[2] not only shares Leser's opinion concerning their significance and probable value in the diagnosis of malignant disease but believes, that any noticeable number of cutaneous angiomata indicates roughly the seat of the malignant process, *i.e.,* in rectal cancer the angiomata are to be found in the gluteal region. Leser based his opinion upon the observation of 50 cases of cancer which he studied with close regard to the coexistence of skin angiomata. In 49 cases he was able to demonstrate these tumors in greater or less numbers. His attention was directed to the matter when, upon making his first examination of a case of pharyngeal carcinoma, a dozen or more of these nodules appeared in the surrounding skin. The patient in question remained under his care for a period of four months, when he died and the number of angiomata was found to have increased to the extent of over 200. In another case Leser counted 76 and in still another 58 were found.

At the same time he examined 300 individuals in whom no evidences of cancer were to be detected and in whom there was no reason to suspect the presence of any such process. The result was that he discovered skin angiomata with striking frequency in those of advanced years, *but not commonly in those at whose age cancer is most prone to occur.* In the light of this experience, he attaches but slight significance to the existence of angiomata in the aged; he regards their appearance in middle life, however, as a suggestive indication of carcinomatous degeneration.

In order to determine the relative frequency of cutaneous angiomata Julius Raff[3] took up the study of these tumors at the suggestion of Prof. Jadassohn, of the Dermatological Division of the Allerheiligen Hospital at Breslau. Raff's studies were conducted some time ago—six years, in fact, before the publication of Leser's paper—and at a time when the question of relationship between carcinomata and angiomata had never been discussed. His contribution to the subject is recent, however, and deals with the relationship in some detail. His statistics included the examination of 500 individuals suffering from various diseases with the result that in 180 or 36 per cent. of the entire number he found these cutaneous neoplasms in varying degrees of frequency. He examined 120 persons between the ages of one and twenty years and found angiomata in 12 or 10 per cent. Between twenty and thirty years of age he found them in 23 out of 123 instances or in 18.7 per cent. After this period of life they occurred with startling frequency. Between thirty and forty years of age he found them in 45.3 per cent., between fifty and sixty years in 60 per cent., between sixty and seventy years in 75 per cent. and between seventy and eighty years in 88.2 per cent. of the total number of cases examined.

For the purpose of testing the value of this sign I undertook to examine a large number of cases to determine, first, the incidence of angiomata in the various stages of life and, second and more important still, to learn the frequency and extent with which they are associated with malignant changes. Nearly 400 cases were examined, the patients representing almost every variety of disease, acute and chronic, mental and physical. The results of that part of the investigation bearing upon the relative frequency of skin angiomata are shown in the following table and are in approximately accurate accord with the published statistics of Dr. Raff:

AGE	NUMBER EXAMINED	ANGIOMATA PRESENT	PER CENT.
X—10	12	0	0.0
10—20	21	1	4.8
20-30	44	11	25.0
30—40	77	31	40.3
40—50	81	49	60.5
50—60	47	35	74.5
60—70	54	42	77.7
70—80	28	23	82.0
80—90	8	6	75.0
Over 100	1	0	0.0

Total....373

Percentage of angiomata present in entire number......................53.1

From this table and from the statistics of Raff as well, it is seen at a glance that angiomata occur far too frequently at the same age in which cancer is most commonly observed and that, even if equally comprehensive statistics were gathered from among those with well established and unmistakable evidences of cancer, the resultant figures could represent nothing more than a coincidence.

Gebele, at the Surgical Clinic in Munich,[4] examined 200 patients of different ages suffering from a variety of conditions other than cancer. He found cutaneous angiomata present in 86 cases, or 43 per cent. of the entire number. In 114 instances or 57 per cent. they were wanting. In addition he examined 21 cases of cancer. In 11 cases, or 52 per cent., skin angiomata were found and in 10 were missing.

Combining Gebele's and Raff's cases with my own it is found that, out of nearly 1,100 persons examined 464 or 42.2 per cent. presented skin angiomata.

In his recent paper on the subject Gebele refers to a case in which gastric carcinoma was suspected because 37 skin angiomata were present. At the autopsy an eroding ulcer of the duodenum was found. In my own series I was able to count a still larger number in a man seventy years of age who complained of some vague gastric disturbances of but a few days' duration. The family history, the man's mode of living, the mild subjective manifestations and their duration, together with the results of a scrutinous physical examination seemed to negative the suspicion that cancer might be present. In a man sixty-one years of age with a negative family history of carcinoma and in whom nothing could be discovered more serious than an eczematous eruption involving one of his legs and general arterio-capillary fibrosis, 38 skin angiomata were counted on the breast, abdomen and legs. A man seventy-seven years of age with valvular endocarditis and atheromatous arteries, whose family history was likewise negative, presented 37 such tumors with no detectable evidences of malignant disease. In an alcoholic, sixty-five years of age, 50 angiomata were found; another drunkard, sixty-one years old, had 38, and in still another—a man forty-nine years of age—38 were present. The two first cases offered signs of advanced arterial degeneration with atheromatous deposits in the peripheral vessels. The third showed distinct evidences of fibroid changes in his arteries without calcareous changes. In none of them could cancer be found or even suspected. A fourth drunkard, forty-two years of age, with high arterial tension and sclerosed radials, had 42 angiomata in the skin of the back, abdomen and arms. An inmate of the insane pavilion, sixty years of age, who presented the classical signs of arterial degeneration, had 35 skin angiomata. On the other hand among 17 cases of cancer the largest number of angiomata counted was 23. These occurred in a female, fifty-two years of age, suffering from mammary cancer, the tumors being distributed around the seat of the growth. This latter fact, however, is of but slight moment since the breast is perhaps the most favored of all locations.

During the course of this study an attempt was made to establish some connection between skin angiomata and a predisposition to malignant disease as expressed in the family history. With this end in view fully 100 patients in whom the tumors were found were closely questioned concerning the cause of death in those of immediate kinship. Those who could give no definite information were rigidly excluded. The results, however, were entirely negative, in that such a history could be developed in only a small proportion of cases.

Turning, then, to actual cancer cases in which there could be no shadow of doubt concerning the accuracy of the diagnosis, 17 cases were examined. The growths were located in various parts of the body and the association of angiomata appears in the following table:

	AGE	SEX	LOCATION	ANGIOMATA
Case 1	50	Male	Stomach	1 on abdomen
Case 2	47	Female	Nose	1 on breast
Case 3	39	Female	Uterus	1 on abdomen
Case 4	37	Female	Nose	Absent
Case 5	67	Male	Lip	Absent
Case 6	70	Female	Nose	1 on breast
Case 7	50	Female	Eye	1 on breast
Case 8	47	Female	Uterus	1 on abdomen
Case 9	67	Male	Face	3 on back and chest
Case 10	94	Male	Face	6 on chest and back
Case 11	35	Male	Face	3 on chest and back
Case 12	39	Female	Uterus	3 on abdomen
Case 13	38	Female	Uterus	3 on abdomen and back
Case 14	52	Female	Breast	23 on chest
Case 15	35	Female	Uterus	Absent
Case 16	47	Female	Uterus	Absent
Case 17	52	Male	Liver	Present on abdomen

From this table it will be seen that of 17 cases angiomata were present in noticeably small numbers in the skin of 13 and absent in four, a percentage of 76.4. There is nothing in common between the location of the angiomata and the site of the malignant growth. The average age of these patients was 50.9 years. From Dr. Raff's collection of 500 cases it appears that between the ages of fifty and sixty years cutaneous angiomata are present in 60 per cent. of persons free from cancer. In my own table of statistics the percentage of angiomata occurring at the same period of life is somewhat higher, reaching 74.5 per cent. or 1.9 per cent. less than that which obtains in a comparatively representative number of cancer cases. A combination of 50 cases abstracted from Raff's table and 47 from my own yields a percentage of 65 of skin angiomata in persons between the ages of fifty and sixty in whom there could be no reason to suspect the presence of any malignant process—facts and figures which are absolutely indisputable, and which disprove conclusively the claim that angiomata and malignant disease bear any definite relationship to one another.

Reizenstein[5] has studied the question from the same standpoint. He regards the presence of skin angiomata as a sign of no value whatsoever in the diagnosis of carcinoma. He looks upon these tumors as evidence of cutaneous atrophy since they occur most frequently in those whose skins exhibit such changes. This conclusion, however, cannot be accepted without some reserve because angiomata are often present in those whose skins present no evidences of atrophic alterations. Microscopic examination of the skin in the immediate neighborhood of the tumor reveals no change in the elastic tissue. This tissue, however, is but sparsely present at the actual seat of the growth.

Holländer, however, inclines to the belief that these angiomata bear some relationship to atrophic changes in the skin and that, when considered in connection with the numerous wart-like formations with which they are so frequently associated, are strongly suggestive of a tendency to the overgrowth of epithelial tissues. One who shares this opinion has but to go a step further to appreciate the theory which would identify angiomata with the growth of cancer. That the association of angiomata and wart-like excrescences in the skin is a common one has been noted by several observers and was frequently discerned among the patients examined by myself in the Philadelphia Hospital.

Assuming, then, that blood-vessel tumors and malignant growths are distinct and separate entities, and granting that the former are of practical value rather than of mere theoretical interest, one must seek to determine their source of origin and thence to reason concerning their significance. In comparatively young individuals who exhibited these skin changes I found that high arterial tension and even further signs of precocious arterial sclerosis were commonly present.

In individuals between forty and fifty years of age actual arterial hardening went hand in hand with cutaneous angiomata. In advanced life the association of atheromatous arteritis with these tumors was found to be almost invariable. Here, then, seems to lie the solution of the entire question. It appears not unlikely that cutaneous angiomata are but an external expression of arterial disease, precocious or otherwise, and that as such they are a sign of some worth—at least they merit further investigation from this standpoint in order that their value in connection with disease of the arterial system may be determined once and for all. Furthermore, it seems probable that their mode of origin is in degree mechanical in their nature rather than due to abstruse forces.

Conclusions.—That skin angiomata bear no relationship to malignant disease and that their existence, even in large numbers, is not to be viewed with any degree of alarm so far as cancer is concerned.

That they form a frequent, practically an invariable, concomitant of the decay of advanced years, and in both young and old are probably significant of some form of well marked arterial degeneration.

Note: Since the above article was written Rosenbaum (*Münchener medicinische Wochenschrift,* April 22, 1902) has published a series of 400 observations. So far as skin angiomata are concerned in the diagnosis of malignant disease as well as in the incidence of their occurrence in the various periods of life, his conclusions are essentially identical with those set forth in the foregoing paper.

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THE RAPID MICROSCOPICAL DIAGNOSIS OF FRESH TISSUE: WITH SPECIAL REFERENCE TO STAINING.

BY F. T. BILLINGS, M.D.,
OF BROOKLYN, NEW YORK.

It has been said that the medical profession of to-day depends too much upon the more or less scientific and exact means of diagnosis which the rapid advance in medicine and surgery in the past few years has given us, and although this may be true to a certain extent, we cannot be blamed for accepting thankfully the gifts with which the gods are pleased to favor us.

The perfecting of the microscope, the great strides in the science of microscopy, and the wonderful improvement in technic, have probably aided more than any other means our modern medicine. Pathology is generally admitted to be the base on which both medicine and surgery are builded, therefore the recognition of gross and microscopical specimens is certainly a great advantage, and that this is immensely augmented by the rapidity with which a diagnosis can be reached, is without question.

The ordinary technic of the preparation of tissue for microscopical examination, that is, the hardening and embedding of specimens in paraffin or celloidin, cannot be of as much interest to the surgeon or gynecologist as the preparation and diagnosis of sections in a much shorter period. The rapid diagnosis of abnormal growths and tissue by means of the microscope, is undoubtedly not carried to its highest development in America, for although its great value is probably recognized, it is only in the larger institutions and hospitals that we see it practised and perfected.

The cutting of fresh tissue is one of the principal obstacles with which we have to contend, although for a number of years Virchow obtained some of his finest sections by free hand use of the razor knife. This method even when employed with specimens imbedded in paraffin or celloidin or hardened in formalin or alcohol (at least four hours) is extremely difficult, therefore one can imagine how much more so when a section thin enough for use under the microscope is desired from fresh tissue. The razor knife is used however for the latter, but its use requires months of practice, and even then cannot always be relied upon. Langerhans (Berlin) has devised an extremely ingenious and simple instrument called by him the "double-knife." This consists of two blades, one of which may be turned upon a hinge, forming a right angle with the other, thus facilitating the removal of cut sections. By means of a small screw the blades may be brought as close together as desired, so that we thus have two cutting edges separated from three to five mm. These having been adjusted, an incision is made in the specimen to be examined, but care must be used in withdrawing the knife, for the section cut is very apt to slip out from between the blades. One can readily see the impossibility of employing this instrument for small growths, uterine scrapings, etc.; in fact its usefulness is limited, generally speaking, to that for which it was originally intended, postmortem work.

By far the best means of cutting fresh tissue, up to the present time, is the freezing microtome. This is so well known that a detailed description is hardly necessary. Suffice it to say that the freezing is accomplished by a fine spray of ether directed into a hollow cylinder, above which is the stage upon which the specimen is placed. The knife used is simply a counterpart of that fitted into a carpenter's plane. The technical procedure of cutting the specimen is simple. It should be conveniently small, before placing upon the stage, thus freezing more quickly, and as far as possible freed from fat. Objects containing much fat or of a papillomatous nature, are very difficult and ofttimes impossible to freeze. This fact should be remembered and fat surrounding the tissue as far as possible removed. The specimen having been set upon the freezing stage, by means of a small pair of forceps, is moistened with two or three drops of water from the finger tip, the ether spray started and for a few moments the object pressed strongly against the stage with an ordinary rubber eraser. If it does not freeze well a small amount of water may be placed between it and the metal. Although the specimen must be frozen throughout, care should be taken that it does not become too hard, for in this case the knife will feather and the result be unsatisfactory. It should also be observed that the cut sections are not thicker than from three to five mm. The specimen having been frozen to the proper consistency, the cutting is begun, and as each section lays upon the blade it is wiped off by the finger tip moistened with water and can then be easily placed in a small dish containing more water.

The specimen to be examined may be frozen fresh, and the cut sections, without preparation or staining, placed under the microscope. This is of course understood to be the quickest method of microscopical examination, but for those who have not had considerable practice, a diagnosis is rather difficult to make. Nevertheless it is said (Smoel) that only in these unstained and unhardened sections do we clearly see cloudy swelling, mucous degeneration, etc.

An immediate examination being desired, the specimen having been wiped off the blade of the freezing microtome and placed in water, is transferred to a slide. Some men now employ a few drops of glycerin or of physiological salt solution as an indifferent fluid to cover the section, but most pathologists simply use distilled water. The cover slip is set in place and the section examined.

Unless the condition of the tissue is especially plain few men would be willing to make a positive diagnosis on sections prepared in this manner. On the other hand the process of staining is short and with care gives excellent results. It is impossible to achieve success unless the cut sections are first hardened. Pick of Landau's Frauenklinik, Berlin, for a number of years accomplished this by placing them for five minutes in a four per cent. formalin solution. Formalin is not entirely satisfactory however, because the cut sections do not harden sufficiently in the time allowed, and are consequently rather soft, difficult to manipulate, and the tissue elements not fully fixed. As a result the stain following is inclined to be diffuse and not regular. Alcohol as a hardening medium seems much better. The sections being cut and placed in water are transferred to 50 per cent. alcohol two minutes, and to 95 per cent. alcohol three minutes. It is then customary to wash the sections in water, but to this there are two objections. *First,* time, an important element in that which we are considering; and *second,* the difficulty in handling. Ordinarily this is very much in evidence, but if the sections are passed through water before going into the staining fluid, they at times become almost unmanageable. When on the other hand they are placed directly into the staining fluid from the alcohol, the hydrating process spreads them out absolutely flat, and they remain more or less so while receiving the stain, and alcohol being one of the constituents of this, the final result if at all changed, is in the direction of a clearer field.

The stain giving the best results for the neuclei is hematein, an oxidation of hematoxylin, used in the form of hemalaun after P. Meyer, with some minor modification by Pick.

It is prepared as follows: (*a*) hematein, 1 gm., alcohol, 90 per cent., 50 cc.; heated over water bath (*b*) alum (pwd.), 50 gms., water (dist.) 1000 c.c.; heated over water bath, alum dissolved. (*a*) and (*b*) are poured together and allowed to cool.

It must be said that this stain is not at its best for some time, Pick setting his aside to remain untouched for six months.

To all who have used it to any extent, hematein seems superior to hematoxylin, and appears especially adapted for the staining of frozen sections. Working on this line, hematoxylin specimens were found never superior and many times inferior, as a rule being unevenly stained and rather diffuse. To overcome this, acid alcohol was employed, but it was not at all satisfactory, for though it cleared up the section to a certain extent, it could not be relied upon.

The section having been transferred from the alcohol to the hemalaun and the hydrating process allowed to continue for a few seconds, is then gently sunk in the fluid by means of the specimen needle, and should remain in the stain at least three minutes. The excess is now washed off with water. This is best accomplished by filling a comparatively large receptacle with water, for if a small dish is used it must be twice changed. For the staining of the intercellular material an alcoholic solution of eosin ($^1/_{2000}$) is next employed. The section should be left in this about 30 seconds, it is then passed through 80 per cent. alcohol three minutes and 95 per cent. alcohol three minutes, and finally placed in carbo-xylol (30 gms. of carbolic acid to 100 gms. of pure xylol) remaining two or three minutes. By means of a section spatula, the specimen is transferred to a slide, the excess of carbo-xylol removed with absorbent paper, and the process completed by mounting in Canada balsam. A section thus prepared will be preserved indefinitely.

We may now sum up the different steps of hardening and staining sections of fresh tissue for microscopical examination: (1) Fresh specimen set upon freezing stage, frozen and cut; (2) sections wiped off knife and placed in water; (3) alcohol, 50 per cent., two minutes; (4) alcohol, 95 per cent., three minutes; (5) hamalaun, three minutes; (6) wash in water; (7) alcoholic solution of eosin, 30 seconds; (8) alcohol, 80 per cent., three minutes; (9) alcohol, 95 per cent., three minutes; (10) carbo-xylol, two or three minutes; (11) mount in Canada balsam. The whole process, cutting included, should not take more than 25 minutes. The result as a rule is entirely satisfactory. At times the sections appear cloudy, but this is generally due to faulty technic and can be avoided.

The use of hamatein is to be highly recommended for this work. The short time required for the emersion of the section in the matured stain, the ease with which the solution may be prepared, and finally the clear and distinct staining of the neuclei, render it extremely advantageous.

Sections of tumors, uterine scrapings and pathological specimens in general, on which it is not necessary to make an immediate diagnosis, may be placed upon removal in a four per cent. formalin solution to remain at least four hours. If alcohol is used, the specimen before being set upon the freezing stage must be transferred either to the four per cent. formalin solution or to water, there to remain until completely hydrated. Employing the alcohol gives us no advantage and formalin should therefore always receive the preference. The specimen having been frozen and cut, the sections are placed in alcohol (80 per cent.) where they may be kept indefinitely, although it is not necessary for them to remain longer than five minutes. They are then stained by the method previously described.

The results here are certainly as good for all *practical* purposes as the prolonged hardening and embedding in paraffin or celloidin, which not only demand a large amount of technical skill and experience, but also require rather expensive agents.

It is certainly admitted and recognized, that for pathological research and the preservation of finer structures, embedding in paraffin or celloidin is unquestionably superior, but for the everyday work of the surgeon or gynecologist, especially if he be not connected with a large hospital, the freezing microtome seems almost ideal.

In conclusion it may be remarked, that it has not been thought necessary to cite any cases showing the usefulness of this method. One, however occurring last year in the Landau's Clinic, Berlin, points so evident a moral that it will probably be of interest. The patient, a married woman, twenty-five years old, was admitted to the hospital on the morning of Sept. 6. Two and a half years before she had given birth to a child, and after delivery remained in bed three weeks. Her menstruation, which before was entirely normal, after the confinement became more or less irregular and painful. Since last August she has had, though not severe or frequent, colicky pains in the abdomen, and menstruation distinctly metrorrhagic in character.

On examination the uterus was found to be about normal in size and position, and in the right fornix a small tumor, rather indistinct but evident, and somewhat painful. During the afternoon of Sept. 6 the patient passed a clot. The blood having been washed away as much as possible, the specimen was frozen, and cut sections after being hardened and stained, examined under the microscope. Typical decidual cells* were discovered, and a diagnosis of extra-uterine pregnancy immediately made. The patient was operated on the next morning, when the right tube was found to be distended, and to contain a five weeks' old fetus.

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*It is well known that when impregnation of the ovum occurs, we have a transformation of the uterine mucous membrane. This transformation is found only in the body of the uterus, and is evident in every case of impregnation in whatever locality it may occur.

INDICATIONS FOR THE PERFORMANCE OF THE MASTOID OPERATION.*

BY WILLIAM C. BRAISLIN, M.D.,
OF BROOKLYN, N. Y.

In venturing to present the following paper, I have taken for granted that all matters relating to operative technic would be preferably omitted, and that the brief time at our disposal be devoted to a clinical consideration of mastoid disease, and particularly to the symptoms indicating interference or non-interference of an operative nature, in the individual cases as they present themselves to the physician.

It is possible that the ear surgeon overrates the number of deaths which occur from complications or sequelæ of suppurative conditions of the middle-ear. Some authorities, like Schwartze, consider that 50 per cent. of all brain abscesses are of otitic origin. This is probably greatly overestimated. We may, however, refer to another author, Pitt,† who analyzed 9,000 postmortem examinations made up to that year in the hospital. Among these were 18 otitic brain abscesses, 22 otitic lateral sinus thromboses and 25 cases of otitic meningitis. In all, 57 cases died as a result of middle-ear complications. Such statistics are valueless, however, as a basis of comparison, and all mortality statistics bearing on the subject may be extremely misleading.

For convenience I have arbitrarily classified the states of mastoid inflammation in which one may be called upon to decide the question whether the mastoid should or should not be operated upon, in three phases, namely; Acute, Subacute and Chronic.

By Acute Mastoiditis I refer to the first stage of an acute attack of mastoiditis of a given patient. There is in this case no external swelling of the mastoid, with the possible exception of early childhood, in which some are seen in whom the inflammation has rapidly extended along the superior canal wall between the bone and periosteum causing external swelling over the mastoid very early, with some displacement of the ear (auricle) outward and forward.

The pain in the ear is severe. Often it ceases on the occurrence of a discharge; but it recurs in spite of the continuing free discharge; or the discharge may have become scanty or ceased. It has been stated that a change in the localization of the pain frequently marks the extension of the inflammation from the ear to the mastoid; that is, that instead of an earache there is now pain in the region just behind the ear.

Tenderness of the mastoid to pressure is characteristic and rather general. Two points of especial tenderness are those over the tip of the mastoid apex, and over the suprameatal triangle of MacEwen, that is, immediately above and behind the attachment of the ear to the head. A temperature from slightly below normal to 104° F. may exist, though unless complicated with la grippe or other inflammatory conditions, it is not often so high. Chills or chilliness may be present or absent. In the severer forms, pain may radiate from the ear over the side of the head, backward to the occiput, upward to the vertex and forward to the frontal region.

Headache and sleeplessness are usually marked symptoms; vertigo may be present. There may be vomiting, and this may be regarded as a grave symptom in any case of mastoiditis, especially in the acute form and early in the disease, though perhaps less so in children, unless of an expulsive variety.

The roof of the attic of the tympanic cavity, as is well known, is occasionally congenitally perforate or lacking and early expulsive vomiting points to rapid involvement of the intracranial structures through this or some other abnormally patent opening. In the acute stages of mastoiditis inspection may reveal a reddened membrane bulging in the region of the upper and superior quadrant, the so-called membrana flaccida, or this part of the drum may have already ruptured, showing a pouting perforation, from which, as pus is mopped away with a cotton pledget, beads of pus may be seen to exude drop by drop. The outlet at the perforation seems insufficient. Even at this early stage there may be seen some falling of the posterior superior canal wall close to the drum attachment, owing to burrowing of the pus outward at this point or to edema from inflammation of the bone cells or antrum. A small perforation or a bulging of the membrane at this point demands a wide and free incision, at once. If it is decided to operate on the mastoid immediately, this incision is carried out as soon as the patient is fully anesthetized, and before opening the mastoid.

Seeing a patient with some or all the symptoms enumerated, one may be required to decide at once, for or against an immediate operation. A large proportion of the cases of acute mastoiditis seen by the writer during the winter 1900-01 recovered without operation; eight of 15 acute cases recovered completely without operation carried out either at once or later. These were treated in almost every case by free incision of the membrane with subsequent care in keeping the perforation open. In some cases the ice-coil was used over the mastoid, in others, dry heat was employed. The circumstances surrounding any given case, particularly the opportunity for keeping careful watch of it, the severity of the symptoms, as well as the number of symptoms, present the chief guides for determining the decision in each case. Extreme and continued pain over the mastoid, varying temperature, tenderness of the mastoid, usually very marked in the acute stage, and general prostration, especially in the presence of an already ruptured drum membrane, are indications for an operation which should certainly not be postponed for more than 24 hours.

In young children, as has been intimated, swelling behind, above or even in front of, the ear may appear very early, due in part to the greater ease with which the inflammatory products escape through the Rivinian fissure and also no doubt because of the absolutely less distance to the outer surface in infancy. A free internal incision through membrane and through periosteum of the bony wall of the canal may cut short an attack, even when external swelling has appeared, but in most cases in which an external swelling is present pus has already formed in considerable amount, and an external incision is necessary.

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* Read at the Meeting of the Associated Physicians of Long Island, held at Islip, L. I., June 22, 1902.

† Guy's Hospital Report, London, 1890.

A case rather typical of the acute form of mastoiditis in which operation was done is the following: Mrs. M., age forty-one years, had had for some days symptoms of an attack of grippe. When seen by the writer she had had for four days progressively severe pain in and behind the left ear, so that sleep had been disturbed. No discharge from the ear had occurred. Vertigo was a marked symptom, and she had vomited twice. The drum membrane was now freely incised; the cut carried high up behind the hammer bone through the flaccid portion which was bulging. A free discharge of bloody serum followed this with but slight abatement of the pain. Temperature 96.5° F., pulse 83. The following day the pain abated in the early morning hours, but began again later in the day. Vertigo was still present. Tenderness of the mastoid continued to be a marked symptom, and this also extended in front of the ear. She did not at this time have pain referred to the side of the head, but it was confined to the mastoid and about the ear. The general condition was one of great prostration. Temperature 98.8° F., pulse 80. Ice bag was continued. The following day, the seventh of her mastoiditis, the symptoms of pain and tenderness persisting, the mastoid was opened, the entire mastoid process was found to be of an intensely red color, infiltrated with bloody, serous pus, seeming to show the evidence of bacterial infection of a virulent type. The bone was of the pneumatic variety and bloody, serous pus filled all the cells. The antrum was freely drained and the infected bone curetted away; the wound was packed with gauze in the usual manner. Pain ceased from the time of operation. Healing was uneventful.

Subacute Mastoiditis.—The class of cases which I designate as subacute comprises many which have been watched and treated through the first week of the disease, or longer, and in which the severity of the symptoms did not justify immediate operation, but which did not clear up, though they may for a time have seemed better.

Most mastoid cases of a recent character are seen for the first time at this stage, especially in hospital and dispensary practice. The pain is of a rather different character from that at the beginning of the attack. It is not so constant. It may intermit for a day or longer when, in spite of some fever the patient feels comparatively well, and entertains no thought of a relapse; nevertheless the pain, during the attack, is intense, and there is constant tenderness to pressure. The tenderness is apt at this time to be most marked at the tip and close behind the ear just over the mastoid antrum. *During the attacks of pain* the face shows symptoms of the physical and mental strain; it is drawn, and has the unmistakable look of one suffering deeply. The pain shoots to the vertex, to the occiput or to the frontal region. The attacks of pain may be of long or short duration. *Between the attacks,* which may be absent for hours or days, the patient looks bright and is cheerful and frequently states that pain is almost gone; but on inquiry it will be found that the night's rest is broken, and that the cause is due to the feeling of soreness of the head.

The discharge may have ceased; it is usually slight at this stage but occasionally it is very profuse.

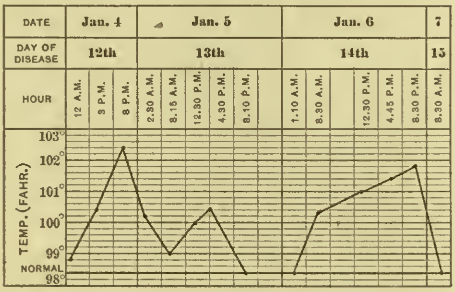
The temperature chart shows an irregular curve varying from a degree or so above, to slightly below, normal.

In most cases there is less prostration than during the onset of symptoms. The patient may be able to go out of doors, and perhaps ask to be allowed to get back to work or go to school. If he does either, the pain and other symptoms become more marked. Almost any measure will check or control the pain at this stage for a time. Local abstraction of blood, the ice-bag or in some, dry heat are soothing and comforting. A practice which is considered highly undesirable at this stage, is the administration of a course of opiates. This masks the pain, while perhaps pus is slowly burrowing to the dura or, it may be, forming an infective thrombus in the lateral sinus.

The history of the patient, his general physical appearance and particularly a study of the temperature chart for the few preceding days will now lead to a determination, in favor of, or against, operation.

The following case typifies this stage: Beatrice H.; 7 years old; first seen Dec. 26. For four days she had had severe pain in left ear, for two days discharge. The pain still continued. Slept poorly. Slight tenderness over mastoid. Temperature, mouth, 101° F. Inspection of affected ear showed some pus in canal. Drum was red, bulging in posterior superior quadrant so as to largely obscure the anterior and lower portion. Free incision of membrane was practised. Dec. 27 (next day), she had slept better. Temperature 99.5° F., other symptoms somewhat better. Bloody serum flowed freely from the incision made the day before. Jan. 1 (four days later) she reported having slept well. Temperature 97.6° F. Discharge had been free until this morning. Now it had become thicker. The discharge was less, her appearance was better. Still she had some tenderness over the mastoid. Appeared as if progressing to recovery. Jan. 4 she seemed bright and appeared recovering. She felt well, but had occasional sharp pain around the ear. The evening before on waking at 5 P. M. from a sleep of three hours complained greatly of a pain. This soon subsided. I then had her mother take her temperature at four hour intervals. (See chart.)

Jan. 7, sixteenth day of illness, mastoid operation was done under ether. A grayish spot of bone existed on the cortex over the triangular point of entrance to the antrum. One dram of pus was found in cells one-eighth inch below the cortex. Curetted out and packed. Jan. 18 canal perfectly dry. Drum healed. The wound behind the ear healed slowly. Patient made a good but rather prolonged recovery.



Chronic Mastoiditis.—In the third class of cases of mastoid inflammation I include all those in which there is a previous history of mastoid disease or in which a continuously discharging perforation from the attic region of the tympanic cavity favors the belief that long-continued disease of the antrum has existed. This class includes also cases in which a discharge occurs through a sinus opening in the mastoid cortex. In almost all a discharge from the auditory canal is present, though sometimes it is so slight as to be mistaken by the patient for natural ear wax.

The patient usually suffers at intervals from attacks of pain. These may not be severe but usually sufficient to occasion more or less wakefulness at night. In the intervals between attacks he seems not incommoded and pursues his avocation. All varieties of destruction of the tympanic membrane may be present. The drum may be cicatricial, perforated or entirely lacking. The ossicles may be necrosed in part or lacking.

Granulomata are usually present in the walls of the tympanic cavity. During attacks of intercurrent illness the ears are apt to suffer. La grippe selects them with partiality, and is the cause of many acute exacerbations of chronic ear conditions.

In some of the cases the inner wall of the mastoid apex is thin and necrosis of the bone sometimes takes place here, the pus rupturing into the digastric fossa (Bezold's form of mastoiditis). This form of the disease is apt to appear as a tense but illy defined swelling beneath the sterno-mastoid muscle extending for some distance in front of and behind it. Pain in the neck and at the tip of the mastoid occurs; less marked over the antrum.

Sclerotic changes in the bone due to prolonged suppuration seem to favor extension to the intra-cranial structures and a history of repeated attacks of pain behind and about the ear with scanty but continuous discharge is usually regarded as good ground for a mastoid operation. Headache of an intense character even without mastoid tenderness in cases with the above history is significant of beginning intracranial involvement. As pus becomes disseminated through various portions of the mastoid, it follows the direction of least resistance, and its physical conformation may determine, provided no surgical intervention is practised, whether lateral sinus thrombosis, epidural cerebral or cerebellar abscess or meningitis supervenes, or whether the pus contained within the antrum and cells becomes spontaneously evacuated, through necrosed bone externally; or, provided inflammation subsides while the bone remains imperforate, it is possible that the cavity in the bone may decline into a chronic abscess, discharging a scanty secretion through an attic perforation of the tympanic membrane.

The danger attending a chronic discharge having its origin in the antrum or cells lies in the probable development of cholesteatoma and granulations, which may block the outlet, with the results of suddenly developed and acutely renewed mastoid symptoms. I believe that no small degree of low sepsis must occur from the absorption of pus, even before the development of dangerous symptoms. It is not uncommon to meet with patients who, having suffered from severe recurrences of mastoiditis at various intervals, come to believe that all symptoms will again subside with the lapse of time and persist in refusing operation. I have learned of death resulting in cases with the above history.

Nature seems, in some cases, to obliterate diseased cells in the mastoid process by sclerotic changes, but in this case the obliteration never proceeds so far as to do away with a diseased antrum and this, of course, is the point, because of its intimate relationship with the intracranial contents, from which so many serious and fatal sequelæ originate. Brain abscess, meningitis and sinus thrombosis, the latter sometimes marked by the occurrence of infective processes in the lungs or other parts of the body close the chapter of many of the cases of chronic middle-ear suppuration, some of which we are only learning to interpret as our knowledge of this interesting subject becomes wider.

Summary.—The symptoms of greatest significance in leading one to undertake immediate operation are, (1) Pain continuous and severe, making sleep impossible, and radiating upward along the side of the head to the vertex, backward to the occiput, or more rarely, forward to the frontal region; (2) the temperature even in children does not often keep at a high point after the first days of acute illness, but is often markedly irregular. (3) A falling of the posterior superior wall of the external auditory canal. This is caused by edema of the periosteum and tissues over the mastoid cells or may be due to the actual burrowing of pus. It is possible to mistake this condition for furuncle of the canal and *vice versa.* (4) Tenderness over the mastoid is the rule in cases calling for operation but there are exceptions. Other severe symptoms may be present pointing to perforation of the tegmen tympani.

Some operators go to the extreme of believing that an exploratory mastoidectomy is justifiable at any time. But operations are in this way often done in acute cases, which would recover completely without operation, and while such a course is infinitely better than running the risk of intracranial mischief, it seems to me that most of us would prefer conservatism as applied to our own mastoids.

On the other hand it is proper in my judgment, to operate on cases which we see in the quiescent states of chronic mastoid suppuration; both because the inflammation and irritating character of the discharge from the ear are producing destruction of the middle-ear adnexæ, with consequent progressive loss of hearing; and also because sooner or later the disease is almost surely, like chronic appendicitis, to require operation at a future time, when probably the tissues will be at a lowered stage of vitality. During the quiescent period when there is perhaps an entire absence of pain, the Stäcke operation can often be done with benefit involving a shorter convalescence. But in the absence of pain it is often difficult to get the patient's consent to operate at this time.

There is always danger in delay, but perhaps never more so than in the acute case of mastoiditis, when involvement of important structures may be very rapid, and is often fatal.

MEDICAL PROGRESS.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Urinary Purins.—We are getting closer to a real knowledge of the metabolism of the body in its relation to the chemical deficiency commonly grouped under the generic heads of "gout" and "chronic rheumatism." It is altogether to be expected, too, that our knowledge of these little known conditions should be added to by men who dwell in that country where these diabolic disorders, if they may be so termed, abound. I. Walker Hall (Br. Med. Jour., Nov., 1902) defines the purin bodies as "including all substances which contain the nucleus C_5H_4." Those most frequently encountered are hypoxanthin, xanthin, uric acid, guanin and the methyl xanthins. These are most conveniently divided into the exogenous and endogenous types, the former are derived from foodstuffs, the latter are the products of body metabolism, probably arising from nuclein cleavage. It has long been known that the simple estimation of uric acid is of very little diagnostic value; this evidence shows plainly at the outbreak and decline of acute gout attacks, where they are clinically overshadowed by other signs of greater value. About 50 per cent. of the ingested or "exogenous" food purin is eliminated within 24 hours after its ingestion. If now, the personal metabolic factor be known, it varies from the above by somewhere near 10 per cent., some patients, subject to gout and chronic rheumatism, could be allowed a certain amount of meat and other foods rich in purins. Clinically this would be a very great convenience, inasmuch as it is so very difficult to limit their diet to an absolutely purin-free food. This offers a very full explanation of the need of some ready way to estimate the excretion of "endogenous" purins. The author has devised a purinometer, which is as easy to use and as rapid in its operation as the ordinary albuminometer. It is based on Camerer's method for the estimation of the total purin bodies in urine; two solutions are used; the first being magnesia, ammonia and chalk; the second, silver nitrate, ammonia and chalk. The purinometer is a simple graduated separator with a tap at the bottom. The albumin, if present, is first removed from the urine, solution No. 1 is added, and the phosphates come down. On adding solution 2, the precipitate consists of silver chloride and silver purin. The first dissolves in the excess of ammonia. The purinometer is then placed away from the light and in an hour enough of the purin precipitate will have fallen to give a reliable reading. This, multiplied by an empiric figure and by the total daily urine, will give the total daily purin nitrogen. For determining the endogenous factor a diet of eggs, milk, cheese, rice, potatoes, bread and butter, should be given. For the exogenous factor, any weighed quantity of meat should be given and its purin calculated from the usual tables. It is obvious that there is no use whatever in seeking further for methods of estimating the excretion of uric acid, the old tables are now of little or no value, what is needed is a new set giving the endogenous and exogenous purin elimination.

Liquid Air and Micro-organisms.—The influence of the prolonged action of the temperature of liquid air on micro-organisms was tested for a period of six months by A. Macfayden (Proc. Royal Soc., Oct. 31, 1902). The bacteria used were non-sporing forms, viz.: B. typhosus, B. coli communis and staphylococcus pyogenes aureus, along with a saccharomyces. The bacteria were directly immersed in liquid air, either on cotton-wool swabs enclosed in a perforated metal case or on small loops of platinum wire. Samples were removed and tested at various intervals up to six months. In no case could any impairment of the vitality of the organisms be detected. The fresh growths obtained were normal in every respect and the functional activities of the organisms were unaffected. The typhoid bacillus retained its pathogenic properties and responded typically to the agglutination test; the colon bacillus exhibited its normal properties; the staphylococcus aureus produced pigment on solid and an active hemolysin in fluid media, while the yeast exhibited its fermentative power unimpaired. The above experiments show that a prolonged exposure to liquid air, which has a temperature of about 190° C., has no appreciable effect on the vitality of micro-organisms. The ordinary manifestations of life cease at zero, but at 190° C. one has reason to suppose that intracellular metabolism must in addition practically cease, as a result of the withdrawal of two cardinal physical conditions, viz.: heat and moisture. It is difficult to form a conception of living matter under this new condition, which is neither life nor death, or to select a term which will accurately describe it. In previous experiments it was found that the photogenic bacteria preserved their normal luminous properties after exposure to the temperature of liquid air. On rethawing a rapid renewal of the photogenic properties of the cells occurred. The light is apparently produced by a chemical process of intracellular oxidation. The feasibility of triturating micro-organisms at the temperature of liquid air has now been experimentally established in the case of the bacillus typhosus and other bacteria. The effect of such mechanical trituration at the temperature of liquid air on the luminous properties of the photogenic bacteria, has now been tested. The experiments have shown that the effect of such a trituration is to abolish the luminosity of the cells in question. This points to the luminosity being essentially a function of the living cell, and depends for its production on the intact organization of the cell.

Leucocytosis in Infectious Diseases.—In an extended review of the forms of leucocytosis occurring in infectious diseases, F. Bezancon and M. Labbe (La Presse Méd., Nov. 8, 1902) remark that hyperleucocytosis is the rule; the increase in white cells is sometimes due to augmentation of polynuclear cells, but more rarely to increase of mononuclear forms. Hyperleucocytosis with increased number of polynuclear cells is observed principally in saprophytic affections, such as localized inflammations, erysipelas, pneumonia; the same form of leucocytosis is found in diphtheria, scarlatina and in blenorrhagia. Hyperleucocytosis with increase in mononuclears characterizes syphilis, tuberculosis, whooping cough, mumps. In typhoid fever, typhus and malaria, the blood presents a leucopenia with relative increase of mononuclear cells. The leucocyte curve in general is parallel to the curve of the disease; the return to normal is preceded by mononucleosis, appearance of transition forms, and reappearance in great numbers of eosinophiles, which usually disappear during the height of the disease. While each disease does not possess an absolute and individual leucocyte formula, the differences are sufficiently marked to make the study of the blood an aid to diagnosis in many cases. Besides this there exists in each disease, just as in the physiologic state, a mean leucocyte formula proper to such disease, and any marked departure from this pathological equilibrium or leucocyte reaction is the sign of an unusual, grave or complicated form of the disease under observation. Leucopenia indicates insufficient reaction on the part of the hematopoietic organs. Moderate hyperleucocytosis is the sign of moderate morbidity and good defense on the part of the organism. Marked hyperleucocytosis and large excess of polynuclear cells indicate intense, tenacious infection with violent reaction. Polynuclear leucocytosis suffices in the struggle against superficial or mild infections. In more profound attacks mononuclear leucocytosis alone is capable of defending the organism. Moreover, polynuclear leucocytosis confers only transitory immunity, while the immunity following mononuclear leucocytosis is more durable.

Changes in Organs Following Thyroidectomy.—In an experimental study on the pathological effects of removal of the thyroid in dogs, W. Bensen (Virchow's Archiv, Nov. 3, 1902) concludes that a poison is produced or retained in the body, that causes a peculiar degeneration of the protoplasm of the cells of the kidneys, liver and cardiac muscle, leading finally to the disorganization of the cells. The products of the latter are found as colloid balls or cylinders in the renal tubules. As the result of the long duration of this condition, as Blum described it in dogs, there may occur interstitial inflammation leading to cicatrization. Thyroid tablets in not too small doses (0.06 grams) prevent or mitigate the disturbances. Thyroidization in healthy animals is bad, leading to enteritis and kidney and hepatic disease.

Cytodiagnosis in Meningitis.—The theory which holds preponderance of lymphocytes to be indicative of tuberculous meningitis, and polynuclear and large mononuclear cells as characteristic of meningitis due to other micro-organisms such as the diplococci, streptococci, etc., is discussed by L. Concetti (Rif. Med., Oct. 5, 1902) who has in his personal experience seen frequent exceptions to the general rules applying to cytologic formulæ. Many cases of tuberculous meningitis which came under his observation, followed the regular lymphocytic formula; but in those cases in which large numbers of bacilli were present in the sediment, there was invariably a preponderance of polynuclear cells, while in those in which the bacilli were absent, lymphocytes predominated. In some instances, the first puncture revealed absence of bacilli and preponderance of lymphocytes; the second showing numerous bacilli and predominance of polynuclear cells. Inversion of the polynuclear formula was also found to occur in the absence of micro-organisms in other forms of meningitis; hence the author concludes that preponderance of lymphocytes is the expression of toxic irritation, and predominance of polynuclear cells, of bacterial irritation. Thus he finds a natural explanation of variations in the cytologic formulæ, in view of the phagocytic power attributed to the polynuclear cells.

Hemorrhages Into the Suprarenals.—Small ecchymoses into the suprarenals occur frequently in the various infectious diseases and are to be considered toxic in origin, according to M. Simmonds (Virchow's Archiv, Nov. 3, 1902). Hemorrhagic infarction of both suprarenals often leads to peritonitis and collapse and may result in death. It may, however, occur without any of these sequences. Large hematomata may be formed in the suprarenals. Hemorrhages into these glands may also occur under the following circumstances: traumatic influences (under this class is found the form seen in the new-born); hemorrhagic diathesis; thrombosis of the suprarenal veins which is the most common cause; and bacterial capillary embolism which occupies the second rank. The thrombi can affect the trunk or the tributaries of the suprarenal veins; they can occur in both or only in the right organ; they are to be regarded as marantic thrombi, occurring as a rule only in individuals suffering from some form of chronic disease. The peculiar anatomical disposition of the vessels favors their formation. A primary suprarenal disease does not precede these cases. Under the cases of bacterial capillary emboli are included those in which neither clinically nor anatomically can septic disease be observed. Bleeding into the suprarenals may lead to atrophy of the organ.

Immunization of Cattle Against Tuberculosis.—When an extensively tubercular herd is tested with tuberculin some animals are found which do not react to the test and are free from disease. It can be proved that this immunity is due neither to age, length of exposure, species or breed. It is evidently an individual factor, not dependent on good general health or condition. With these observations as a basis various observers have conducted experiments with the idea of creating an artificial immunity in cattle, some of which have been attended by success. L. Pearson and S. H. Gilliland (Phil. Med. Jour., Nov. 29, 1902) have lately investigated the question as to how much of a culture of sputum tubercle bacilli it is possible to use in the attempt to increase the animal's resistance to tuberculosis. Several healthy cattle were inoculated with large quantities of cultures of human sputum tubercle bacilli. Very little reaction resulted, but the resistance to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures that are capable of causing death or extensive infection of cattle not similarly protected. It was also shown by this that intravenous injections of much larger quantities of cultures of human sputum tubercle bacilli than are necessary to confer a high degree of resistance, or immunity, upon the vaccinated animal, may be administered without danger to that animal. The duration of this immunity and the extent to which it is effective in protecting cattle against infection from natural infection is still under investigation.

Histology of Infectious Granuloma.—As is well known, Virchow first classed the leprous nodule among the granulomata; he it was also who first pointed to swelling and vacuolization as the chief characteristics of the leprous cell; which observation has since been confirmed by many investigators. T. Secchi (Rif. Med., Oct. 23, 24 and 25, 1902) thus summarizes the subject: Swelling and vacuolization of the leprous cells are degenerative processes of parasitic origin. Since the degenerated cell presents the metachromatic features of mucin, the degeneration may be looked upon as muco-aqueous. The formation of vacuoles and production of the muco-aqueous substance are the result of the action and secretion of the bacillus of leprosy. The action of the bacillus of leprosy is twofold: irritative, causing hypertrophy and hyperplasia of connective tissue; and necrobiotic, inducing swelling and vacuolization, sometimes associated with caseous degeneration and formation of tuberculoid foci. Hence the differences between the action of the tubercle bacillus and the bacillus of leprosy are as follows: Both have a necrobiotic and neoformative influence; but the tubercle bacillus causes caseous degeneration, while the bacillus of leprosy produces vacuolization. The giant cells are rare in leprosy, common in tuberculosis. Both induce formation of epithelioid cells, but the specific action of Koch's bacillus is seen in the production of lymphoid tubercles. The main part of the leprous granuloma is made up of connective tissue which is sometimes lymphoid in appearance; lymphocytes and plasma-cells are rare. The leprous granuloma may be said to belong to the epithelioid class.

New Variety of Diphtheria Serum.—Two great classes of immunizing sera may be said to exist: (1) those which act on the toxins derived from the bacteria, and (2) those which act directly on the bacteria. Diphtheria antitoxin belongs to the first group, acting exclusively on the toxins. A. Wasserman (Deut. med. Woch., Oct. 30, 1902) has succeeded in producing a specific serum which dissolves the diphtheria bacilli and causes both agglutination and precipitation. He prepares the serum by mixing 20 c.c. of a 1-per-cent. solution of ethylene diamin with 1 gm. of the bacilli, dried and ground in a mortar. The mixture is shaken for several hours, then allowed to settle for 24 hours and filtered. The filtrate containing the toxins is neutralized with diphtheria antitoxin and injected. The author employed rabbits for his experiments. The results obtained in these (solution of the bacilli, agglutination and precipitation) suggest that it might be possible to combine this new serum with the specific antitoxin and to increase the value of the latter. Such a combination might prove particularly effective in convalescence from diphtheria, or in cases where the bacilli may be hidden in the throats of healthy persons.

The Blood in Pregnancy and the Puerperium.—After a careful and exhaustive study of the blood in pregnant women, G. B. Pray (Am. Gyn., Oct., 1902) has arrived at the following conclusions with regard to the true conditions that are to be found: (1) Where the blood generation fails to keep pace with the increased vascular area a serous dilution of the blood takes place; (2) in the majority of cases this is not serious and can be overcome by simple hygienic measures—fresh air, good food and the overcoming of constipation. Cases in which the vitality is overcome by the increased demand for nutrition, may call for iron or other hematinic treatment; (3) the regeneration of the blood is partly effected by the lessening of the vascular area after labor and subsequent transudation of fluids of the blood into the tissues; (4) the leucocytosis is due to increased action of enlarged lymph glands of the pelvis, and in part to increased metabolism which causes a somewhat toxic condition. Its decrease is caused by the lochial discharge. Its persistence is accounted for by the fact that the involution of the hypertrophed pelvic organs and breasts is accomplished in a great measure by the leucocytes; (5) the study of the blood of a woman delivered by a Cesarean operation shows the same general behavior of the blood constituents as does that of women after normal labors.

The Short Bacillus of Diphtheria.—Diphtheritic cases characterized by the preponderance in the secretion of the short bacillus run a mild course, in the experience of M. R. Casabo, (Cron. Méd., Quir. de la Habana, Oct., 1902), who believes that the cases which recover without antitoxin-treatment belong to this type. In support of this idea, he reports five cases which ran a perfectly benign course without antitoxin-treatment, the use of which was refused by some of the patients, and inexpedient for various reasons in others; and examination showed the pathogenic agent to be, in every instance, the short bacillus. Not always, however, is the influence of the short bacillus benign, as it has been known to acquire a high degree of virulence in certain media, and the individual resistance, in this as in all infections, also enters into the equation.

EYE, EAR, NOSE AND THROAT.

Heterophoria (Treatment for).—A good paper, full of wise conservatism and thorough grasp of the whole relationship of the subject, is written by Edward Jackson (Am. Jour. Ophthal., Nov., 1902). His summary is this: Heterophoria cannot be recognized by any subjective symptoms. When shown by appropriate tests it does not necessarily require special treatment. In a majority of cases it is chiefly valuable as an indication with regard to the wearing of lenses. Its degree does not tell whether it will require treatment or not. Its permanence is a more important, but not conclusive indication. If constant, it may be partly or wholly corrected by prisms, especially in elderly people. Before resorting to operation, correction of ametropia, careful use of the eyes, graduated exercise, special gymnastics, the removal of all cause of ill-health, and general tonics should be patiently and persistently tried. The operation of preference would be tenotomy for exophoria, advancement of the externus for esophoria, and lateral displacement with tenotomy, when vertical deviation is present. Operations should not be frequently repeated; and they are of doubtful propriety as a means of suggestion.

Two Cases of Complete Laryngectomy in Cancer of the Larynx.—Two cases of this operation were reported by Benissovitch (Russky Vratch, No. 40, 1902). Both patients survived. The author thinks that with the new methods for preventing secondary pneumonia, the most dangerous complication after this operation, the results of it are a great deal more favorable. Where the percentage of death was formerly 45, now only 15 to 18 per cent. succumb to the operation, and the results could be still more improved, if the cases would come to the surgeon in the earlier stage of the disease.

Laryngeal Myxoma.—A case which is noteworthy on account of the size of the tumor and the simplicity of its treatment, is reported by P. Delobel (Jour. Sci. Méd. de Lille, Nov. 15, 1902). The neoplasm, which subsequent microscopical examination showed to be a myxoma, occupied the entire space of the glottis and completely concealed the vocal cords, even in deep inspiration. Breathing caused the mass to oscillate, which seemed to indicate its attachment by a pedicle, apparently in the arytenoid region; and such proved to be the case, for when operation was decided upon, its removal was easily accomplished by simple clamping and extraction of the mass with Schroeter's pincers. Silver nitrate was applied to the remains of the pedicle and cold gargles and sucking of ice were advised during the evening following the operation. Within four days the patient declared herself perfectly well. After two months there was no trace of local disease.

Antrum Disease.—The old operation of drilling through the cavity of the second bicuspid tooth in order to drain pus from the antrum of Highmore was replaced by the operation of Caldfell-Luc through the canine fossa instead. This, however, has some disadvantages in common with the old operation, namely, of conveying the pus directly into the mouth, which is primarily disagreeable to the patient and may be secondarily a source of other infection from the mouth. To avoid these difficulties, the following operation is devised and described by R. Claoub of Bordeaux (La Sem. Méd., Oct. 15, 1902). Through the anterior naris on the affected side he passes a long, straight, thin, but strong-bladed scissors, so that they embrace the anterior half of the inferior turbinated bone, close to its attachment to the lateral wall of the nose. The bone is then divided, and then, by a second snip through the middle of the bone, the anterior half of the bone is removed. Close beneath the stump thus left lies the normal meatus into the antrum of Highmore. The object of the operator now is to enlarge this opening so that an extensive section of the internal wall of the antrum is removed down to its floor. This is done with a trephine or a suitably adapted chisel. When the fragments of bone have been removed, a large free access to the antrum is afforded, through which the subsequent treatment may be carried out. The authority states that the results of this technic are better than with either of the other two, with regard to the rapidity and permanency of the cure.

Toxins in Inflammations of the Eye.—An interesting series of carefully made scientific experiments given by Randolph (Am. Jour. Med. Sci., Nov., 1902), to show the effects of toxins on the tissues of rabbits' eyes. The toxins used were those of diphtheria, the gonococcus, the coli communis, the pneumococcus, the staphylococcus aureus, the micrococcus epidermis albus, etc. His findings are all the more conclusive because rabbits' eyes are not normally susceptible to the destructive inflammations caused by diphtheria and gonorrhea in human eyes. His experiments show that whether the bacteria present in an eye do harm or not depends on a number of circumstances, the most important of which is "the integrity of the conjunctival surface; and also, that pathogenic bacteria, even those for which toxins had not previously been satisfactorily demonstrated, do harm through the action of specific soluble poisons." His tabulated conclusions are these: (1) "Bacterial toxins, so far as tested, when instilled even for many hours into the healthy conjunctival sac were found incapable of producing inflammation or causing other injury. (2) The same toxins when injected into the tissue of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of the inflammation varying to some degree, according to the species of bacterium yielding the toxin. (3) Bacteria which had not previously been proven to produce soluble toxins were found to produce them even in young cultures, and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biological test for the detection of certain toxins than the tests usually employed for this purpose. (4) The experiments recorded in this paper furnish additional examples, in a comparatively new field, of the importance of toxins in explaining the pathogenic action of bacteria, and likewise emphasize the etiological significance of injuries of the covering membrane of the eye in favoring the action of toxins and bacteria."

Ozone in Chronic Middle-Ear Deafness.—The form of deafness to which reference is made is popularly called "throat deafness" by the medical profession, and is a chronic dry catarrh of the middle ear. It is generally believed to be due to stenosis of the Eustachian tube. Concerning this disease and its treatment by ozone, G. Stoker (The Lancet, Nov. 1, 1902) offers the following notes. This latter condition may arise from interference with nasal respiration, due to congenital malformation or to hypertrophy of the mucous membrane of the nose or naso-pharynx. The symptoms are progressive deafness with tinnitus of various kinds and varying intensity. The tympanic membrane is retracted and usually opaque. There are no signs or symptoms of the auditory nerve being involved. Of all forms of deafness this is the most common and the most intractable, and it is no exaggeration to describe it as the opprobrium of otology. The stenosis of the Eustachian tube affects the mucous membrane lining the inner ear (1) by preventing the free ingress and egress of air; and (2) by confining the secretions that exude from the lining of the cavity and thus setting up unhealthy conditions. These conditions lead to thickening of the mucous membrane and consequent deafness. The nasal stenosis may be relieved, and the Eustachian tube become more open, but the deafness still increases; this points to a remaining unhealthy condition of the middle ear. The ozone, in restoring a healthy condition to diseased nasal mucous membrane led to a trial of the latter in chronic progressive deafness. The ozone was generated by means of an electric current acting on a Ruhmkorff's coil to which the ozonizing tube was attached. The ozone so generated is pumped into the middle ear through a Eustachian catheter for about three minutes two to four times a week, according to opportunity.

Ocular Manifestations of Chronic Bright's Disease.—The ocular lesion which may be associated with chronic nephritis are, according to G. E. de Schweinitz (Proc. Phila. County Med. Soc., Nov., 1902): (1) Complete blindness, without ophthalmoscopic lesion. This occurs most often in acute nephritis, but also in acute exacerbations of chronic nephritis. (2) Albuminuric retinitis and neuroretinitis. (3) Alterations in the caliber and relation of the retinal vessels, owing to sclerotic changes in their walls, with or without hemorrhages and exudates in the retina, seen in association with those forms of renal disease in which vascular changes are evident elsewhere in the body; also isolated hemorrhages and exudates without marked vessel-wall changes. (4) Alterations in the uveal tract, particularly in the choroid and iris. The choroidal lesions are not evident to the ophthalmoscope, but can be seen only on microscopic examination. (5) Some varieties of cataract. A causal relation between nephritis and cataract has, however, never been established. (6) Paresis and paralysis of the ocular muscles, particularly the superior oblique and the external rectus. They are rare and may be terminal symptoms of albuminuria. (7) Recurring subconjunctival hemorrhages. This manifestation has not received the attention it deserves among the ocular signs of nephritis. The hemorrhages occur in persons past forty, and usually during sleep, the patients being surprised on waking to find an extravasation into the conjunctiva. An exactly analogous condition may appear in the delicate skin of the lower lid.

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SATURDAY, DECEMBER 27, 1902.

MONUMENT TO MAJOR REED.

AT the last meeting of the New York Academy of Medicine, Dec. 18, 1902, resolutions of condolence with the family of the late Major Walter Reed, Surgeon U. S. A., and late medical officer in Cuba, were passed unanimously. In seconding the moving of the resolutions Prof. W. W. Keen, of Philadelphia, who was present to take part in the discussion on Gall-Stone Surgery said that Major Reed deserved a tribute of the loftiest character from the medical profession in this country. To him more than to any other is due the present very satisfactory condition of the sanitation of the city of Havana, which from a fostering place for tropical diseases has been changed into a healthful city whose death rate compares very favorably with that of most of the cities of this country, showing even better mortality records than municipalities of equal age.

The eradication of yellow fever from Havana the interesting story of which was told before the New York Academy of Medicine, last month by Major Gorgas, U. S. A., whose paper will appear in next week's MEDICAL NEWS, is mainly due to the initiative and foresight of Major Reed. With Major Carroll, also of the United States Army Medical Service, Dr. Reed insisted that Prof. Sanarelli's supposed discovery of the germ of yellow fever must not be accepted as final. Their controversy on the subject with Prof. Sanarelli, in the columns of the MEDICAL NEWS, three years ago, will be well remembered by our readers. The stand then taken is amply confirmed by the recent developments in Cuba. The whole matter reflects great credit on American medicine and especially on American thoroughness of research. Instead of accepting premature theoretical conclusions the problem was worked out to its practical results by conservative observation and extended experimental control.

If, as now seems assured, the problem of yellow fever at Havana is solved forever and the city is to be henceforth free from the dread scourge of the American tropics, then Dr. Reed is one of the great benefactors of the race. His work will save more human suffering and prolong more human lives than any discovery of this generation, which has been especially rich in such advancements in hygiene. Such a benefactor deserves more than a passing word of panegyric at his death.

Prof. Keen suggested that the profession of this country should raise a monument to him. Even more suitable would it be if under the stimulus of suggestion from the American medical profession the United States Government in whose service the best years of his life were passed, his labors as an army medical officer in Cuba, serving not a little to cause his career to be cut so short, should raise a fitting monument to him in the nation's capital. The man who has forever abolished the danger from yellow fever in our Southern ports, who has made commerce in the American tropics more assured than ever before, who has pointed out the way to eradicate yellow fever from South America, and has limited the ravages of malaria, deserves at least this much of reward and recognition.

We would suggest that medical societies throughout the country take action on this matter by forwarding resolutions to this effect to the President and then by using their local influence with Congressmen and Senators secure that personal interest that will assure the success of the movement. Medical men have been too modest in the past in claiming general recognition for the humane work of members of the profession. Major Reed's case is one well worthy to be made a beginning of better things. He deserves the highest tribute it is in the power of the United States Government to give him.

ALCOHOL AND PHYSIOLOGIES.

"POISON" and "PROF. ATWATER" are the watchwords of the temperance enthusiasts of the State of New York. It must be proved that alcohol is a poison, and that Prof. Atwater is not only unorthodox in his teachings but one-sided and inaccurate in his researches.

The State Science-Teachers Association adopted a report in December, 1901, containing general criticism on the School Physiology Law, as it now stands, prescribing that one-fifth of the physiology matter be devoted to the "deleterious effects of alcohol and tobacco on the human system."

The Committee on Scientific Temperance Instruction in Public Schools has drawn up a reply to the report of the State Science-Teachers Association. We wish we could commend it; for most worthy is the object for which they aim. We feel, however, that the subject of temperance must be treated a little more widely, and with a better scientific understanding, not only of alcohol, but of human nature, if the spirit of the law is to be carried out.

We wish, for the sake of our own virtuous enthusiasm in real scientific temperance instruction, that we did not happen to know how much of what Prof. James calls "the spirit of politics and the lust of dogmatic rule," has "entered and contaminated the originally innocent thing." We also wish that along with the evils of alcohol, might be taught some other physiological evils, which are quite as dangerous, if not more so than the evil of drink. We approve most heartily of the educative principle in forearming the children of our nation against the social evils that wreck the lives of so many; but we think it a silly thing to give them pasteboard armor. We feel that this education must be a little more judicially doled out, if the conviction in the children is to remain when they reach years of discretion.

The present persistent desire of the Committee of Scientific Temperance Instruction to firmly establish the word "poison" in connection with alcohol and to establish the "heresy" of Prof. Atwater in his use of the word "food," is brought out in the "answer." It is a pitiful side-light on the so-called scientific ability of the committee. We might quote "One man's meat is another man's poison," were not the fact so obvious that whether or not alcohol is sometimes beneficial has nothing to do with the case. The point is this: the education must be honest and sound if a child is to base his self-control on it. The child that is taught half-truths, no matter how prettily he may prattle of them in his unregenerate home, will invariably cast away all truth when he finds that his instruction has been part of a one-sided propaganda.

We know the lingo so well; we were brought up on it. Long before the public schools were dosed with "20 per cent. alcohol," we were taught the same familiar formulæ, and we have seen the blue-ribbon boys cast off their teachings as lightly as the child discards his Santa Claus. Only those that were scientifically taught to appreciate the real but specific value of alcohol, and were morally instructed in the spirit of self-control stood the test.

The fundamental wrong in the methods of the Temperance Committee is that they will not admit the *isness of the is.* They will not see a fact, a condition, a logical issue, that they do not wish to see. Their arguments are as specious as those with which Galileo was condemned. "If we admit that the earth moves, then is the church fallible. The Church is infallible, therefore the earth does not move." To admit any possible good in alcohol is to pronounce their standpoint of total abstinence one-sided, therefore any possible good must never be mentioned in print or words, and all research work that even hints at a value in alcohol must be suppressed.

We grieve to say to the committee who have asked us to give a favorable notice to their "answer" to the State Science-Teachers Association, that we cannot indorse their arguments, even though they have quoted many excellent sentences clipped carefully from their context in articles by physicians of world-wide repute. We believe that these arguments bear so little relation to the question of how to teach the principles of abstinence and self-control to the children of the country that they are not worth spending any time upon.

As a matter of fact we earnestly recommend the Central State Committee on Scientific Temperance to take counsel with the New York State Science-Teachers' Association, and instead of quibbling with them over words, to ally forces and see if it be not possible to evolve a method of teaching for the public schools that will concern itself not so much with the percentage of words on alcohol in the physiologies, and garbled descriptions of its qualities, but with the facts of heredity, of all questions of excesses, of the actual effect of alcohol on different constitutions, and of the vital need of keeping the human frame in shape to respond to this most powerful and beneficial stimulant in crises of sickness. None of these facts need ever be unlearned, but they will never be believed in man's estate until they have worked their ruin,—if the boy is crammed with distorted facts and half truths.

Teach temperance and self-control in our public schools,? By all means. But teach them well, from a high moral standpoint founded on facts, —medical, physiological, and chemical facts.

Let the concern be for the *quality* of the matter rather than for its *quantity,* and learn, if possible, what to teach the children from those whose profession it is to draw conclusions from facts rather than from those whose fad it is to fit facts into their conclusions.

THE FECES AND RESEARCH.

It is many years since Kussmaul indicated the value of the stomach pump for the direct treatment of gastric disturbances and years since Leube's test made it possible to determine the functional activity of the stomach, yet any very general application of these methods lies within the memory of the younger generation.

The beginning of the eighties marked the first successful efforts to study the morphology and bacteriology of the feces. Subsequently numerous brilliant works upon the intestinal bacteria aroused the eager but vain hopes of the clinician that new light would be shed upon the vexed questions of intestinal absorption and fermentation and that a method would be produced for examination of the feces as rich in results as the determination of the hydrochloric acid of the stomach contents.

Prof. Adolf Schmidt, under the guidance of Strasburger at Berlin,* has recently presented the results obtained by applying a test diet to the study of the feces and has attempted to provide the clinician with a means for determining the albumin and carbohydrate digestion in the intestines. Rosenheim declared to the Berlin Medical Congress that the service rendered by Schmidt and Strasburger is extraordinary, one that deserves the greatest praise, regardless of the fact whether tangible results, free from objection, had been presented or not.

The method consisted in studying the feces from patients and from normal subjects who had been put upon a test diet. Three forms of diet were used: (1) albumin and fat alone, (2) albumin and fat, with slight admixture of easily digested carbohydrates and (3) albumin and fat with abundance of the easily digested carbohydrates. The methods for estimating the albumin and starch in the feces, depended upon the addition of water and made the results variable. The study of the fermentation however gave valuable information as to the starch digestion.

Schmidt has indicated the necessity for determining at the outset the extra corporeal fermentation in the feces of normal subjects for the food has the greatest influence on the "fermentation capacity" of the feces. He demonstrated that "spontaneous fermentation" arose normally from the solid constituents. He distinguishes an "early fermentation," within 48 hours and a "late fermentation," but from clinical investigations he considers the former only.

The starches are the greatest factors in fermentation, cellulose and albumen play only a minor part. Of the bacteria the *Bacillus coli communis* is the most concerned. A diastatic ferment is also necessary. If in healthy persons after-fermentation is absent it may be due to insufficient starch, or lack of albumin, as food for the bacteria, or both. Furthermore after-fermentation stands in no constant relationship to the absorptive, secretive, or motor activity of the intestines and that if in two patients on similar diets the one shows after-fermentation and the other does not, it can be affirmed in general only that in the former case the power of resistance of the intestines to bacteria is less than in the latter.

The border line between spontaneous and pathological fermentation can be determined only by commencing with the lightest of diets and gradually increasing the more indigestible carbohydrates until a form of diet is reached which produces after-fermentation in the person concerned.

Finally in pathological conditions of the intestines marked deviations from the normal course of fermentation may be evident; while simple diarrheas have little effect upon the normal processes of fermentation, the degree of anatomical changes in the mucous membrane, especially at the seat of the lesion, have a very marked influence. To determine the presence of pathological conditions the test meal is of great importance.

Strasburger from his own studies, concludes that fermentation can give important information as to the regulation of the diet, but as to the nature of the disease it is less valuable. A negative result however does not exclude the existence of intestinal disease.

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* Die Faeces des Menschen. Berlin, 1901-1902.

Following the publication of these studies, experiments have been made by Seymour Basch under H. Strauss, by Von Jakoch, Von Streits, Moros, Philippsohn and Kersbergen, with results which have been partially corroborative and partially refutory, too detailed for consideration in this place.

Schmidt and Strasburger admit that in order to arrive at a definite conclusion as to the ultimate nature of a disease the fermentation test requires the confirmation of a bacteriological examination; a clinical history, etc., but they assert that by the fermentation test an insufficiency of starch digestion can be demonstrated with certainty. As this is characteristic for a distinct intestinal disturbance, an "intestinal fermentative dyspepsia" the results are practical, and in such cases the regulation of diet with rest is known to produce excellent results.

In spite of the somewhat negative results of these long and careful experiments a new way has been opened up by which to determine the functional activity of the intestines. The service rendered by Schmidt and Strasburger in indicating the possibilities of the test diet and fermentation test must meet with general recognition. Extensive research will be required to develop these possibilities.

ECHOES AND NEWS.

NEW YORK.

Appointment of Dr. De Forest.—Dr. Henry P. De Forest, of Brooklyn, was appointed this week a police surgeon by Police Commissioner Partridge, to fill the vacancy caused by the retirement of Dr. Benjamin Wood, a few days ago.

Officers Eastern Medical Society.—At a meeting of the Eastern Medical Society held at the Educational Alliance, East Broadway and Jefferson street on Friday evening, Dec. 12, 1902. The following officers were elected: Louis J. Ladinski, M.D., president; E. K. Browd, M.D., first vice-president; A. Hymanson, M.D., second vice-president; Albert Miller, M.D., secretary; Bernard Gordon, M.D., treasurer; Chairman Committee on Ways and Means, David Robinson, M.D.; Chairman Committee on Ethics, Simon Marx, M.D.; A. E. Isaacs, M.D., trustee; Committee on Admission, Charles Goodman, M.D., Chairman; M. Wolper, M.D., M. Rabinobitz, M.D., J. Heller, M.D., M. Frankel, M.D.

Acromegaly and the Law.—One of the first instances of the relationship of this affection to insanity has been recently recorded in New York. The special commission appointed by Justice Lambert to inquire into the sanity of Harry Rose, the stage manager, who killed his wife on Sept. 27 last, had a session last week in the District Attorney's library in the Criminal Courts Building at which Rose was a stolid attendant. Dr. Robert S. Newton testified that Rose was suffering from "acromegaly," and as a result is not in a condition to advise counsel as to his defense.

Eye Dispensary a Success.—Dr. Lederle of the Board of Health is well pleased with the work so far done at the hospital and dispensary opened for the treatment of eye affections, in the old Gouverneur Hospital building. The dispensary was opened with the reception of patients on Tuesday, and yesterday 229 patients were treated. A full staff of physicians and nurses are in attendance, and it is believed that much good will result.

Genuine Cases of Bubonic Plague.—Dr. William H. Park, bacteriologist of the Department of Health, has completed examination of the three sailors who were detained at Swinburne Island last week on the suspicion that they were suffering with bubonic plague. He reported to Commissioner of Health Lederle Monday that all three have well-developed cases of the plague. They will be kept isolated.

Resolutions on the Death of Dr. Pease.—At a meeting of the City (Charity) Hospital Alumni Society held Dec. 10, 1902, a committee appointed by the President drew up the following resolutions, which were passed:

Whereas in the death of Dr. Daniel P. Pease this society has lost an old and valued member who served it long and well, be it resolved, that this society express its regrets at his untimely death, and further be it resolved, that the following obituary, together with these resolutions, be recorded in the society's minutes and sent to the Medical Press.

Dr. Daniel Pearson Pease was born forty-five years ago in Chicopee, Mass. He was graduated from Bellevue Hospital Medical College in 1882. He was interne at Charity Hospital, leaving in 1883. For many years he was with the Board of Health at Riverside and North Brothers Island hospitals, and later as expert diagnostician. He was one of the early members of the City (Charity) Hospital Alumni Society and always active in its interests. He was a member of the County Society, Academy of Medicine and Physicians Mutual Aid Society. Of late years he had been especially identified with the practice of the Hoffman House, Albemarle and Fifth Avenue Hotels. His genial ways made for him many friends at home and abroad, for he was fond of travel. While in Holland last summer he became ill and hastened to Paris. There he went to a private hospital where he suffered eight weeks with typhoid fever and its complications. An intestinal perforation caused his death December 7, 1902. He was a man of sterling qualities, firm in his convictions, true to his friends and faithful to his duty. He was a man always to be relied upon, tireless, energetic and with all the qualifications which go to make up the successful and able physician and the broad-minded and kindly gentleman. Dr. Pease was a bachelor. While he leaves no family, he does leave a host of friends, both in and out of the profession, who will ever keep him in pleasant memory. Joseph B. Bissell, W. L. Stowell, W. L. Baner, *Committee.*

CHICAGO.

Dedication of Senn Hall.—The first of the new buildings of Rush Medical College was dedicated Dec. 17th, the exercises being conducted in the large amphitheatre. The Faculty and Boards of Trustees of the College were present. Sir William H. Hingston, of Montreal, Surgeon-in-Chief of Hotel Dieu Hospital and professor of clinical surgery in Laval University, delivered the dedicatory address. Among other things, he said: "The domains of medicine and of surgery can never be separated. It may fail to gratify the physician to see surgery obtain quickly, and by a few strokes of the knife, what medicine has failed to accomplish, but, on the other hand, has not the physician to stay, and with advantage, the hand of the surgeon? The immunity with which the most formidable operations are now performed has given a confidence which renders the staying hand of the physician of priceless value. Especially is this true, when, as it sometimes happens, the inexperienced surgeon hurriedly resorts to a tentative operation to establish a diagnosis where one more experienced would see no reason for the procedure.

Prevalence of Diphtheria.—In November 356 cases of this disease were reported, an increase of 84 cases, as compared with the figures of the corresponding month of 1901. The 29 diphtheria deaths reported for the week ending Dec. 13 is the highest number recorded in any week since that of March 3, 1900.

The Changes in the Spinal Cord and Medulla in Pernicious Anemia.—Dr. Frank Billings delivered an address on this subject before a recent meeting of the Chicago Medical Society. The address was based on a study of pernicious anemia, which Dr. Billings read by invitation in Boston before the Massachusetts Medical Society as the "Shattuck" Lecture. Our knowledge of the cause of pernicious anemia is not satisfactory. We recognize certain contributory factors and infer a condition of toxemia which has not been proved. The disease so infrequently follows the infections, like syphilis, malaria, typhoid, la grippe, etc., that it is impossible to ascribe any specific relation to them. The disease occurs more frequently in women than in men. It may occur at any age, but it is more common in the fourth decade than at any other time in life. Intestinal parasites have been found present in the disease, especially the *Bothriocephalus latus* and the *Anchylostoma duodenale.* The condition of profound anemia, with deformed red cells, the presence of fetal red cells in the circulating blood, the presence of an abnormal amount of iron in the liver, together with degenerative changes in the muscles and in the marrow of bone, is a reasonable hypothesis for the assumption of the presence of a circulating poison—a hemolytic toxin—as the fundamental cause of the disease. The source of the poison has been the subject of many theories. It is not improbable that from the evidence we have that pernicious anemia is due to some hemolytic toxin, but whether of bacterial or autogenetic origin, we can not at the present definitely say. The symptoms of pernicious anemia are chiefly those due to a profound anemia manifested by weakness, lessened endurance, with dizziness, dyspnea, palpitation of the heart, etc. In probably a large percentage of the cases the body weight is preserved. There is a tendency to subcutaneous, submucous, retinal and other hemorrhages. Gastro-intestinal disturbance is very commonly present, and especially diarrhea. The appetite is often poor or capricious. The disease is associated with nervous phenomena in the great majority of cases; usually, however, subjective in character. The spinal cord lesions, which are now recognized as occurring in a small percentage of the cases, may appear as one of the earliest manifestations of the disease, or they may occur late, and may be manifested slightly or not at all up to the time of death. Dr. Billings gave an analysis of 41 cases of pernicious anemia that he has seen during the last few years. The consensus of opinion is that the nervous lesions are due to a toxic agent, which is also responsible for the anemia when it is present. The fact that the lesion does not involve, as a rule, a whole neuron or system; that the trophic cell is usually not disturbed in either the cortex, the spinal gray or the posterior ganglion, and that the ultimate primary change is one of degeneration of the nerve fiber itself, speaks for the effect of some blood-circulating toxin. The fact, too, that the brunt of the lesion occurs in that part of the tracts involved farthest removed from the trophic center, where the nerve fiber is the least protected by its nutritive cell, is evidence of a toxic cause.

The conclusions which one may draw from a study of the subject are:

(1) That there is a well-established relation of diffuse cord degeneration with pernicious anemia; (2) it seems probable that the hemolysis and the cord changes are due to the same toxin; (3) while the source of the toxin is unknown, the fact that gastro-intestinal disturbance is so common in the disease would lead one to suppose that it is of intestinal origin; (4) the diffuse degenerations of the spinal cord which occur in conditions without pernicious anemia do not appear to differ essentially from those of pernicious anemia; (5) it is possible that a common blood-circulating poison exists which may expend its force on the blood in one individual, on the nervous apparatus in another and coincidently on the blood and spinal cord in others.

GENERAL.

Lowest and Highest Mortality.—Guatemala, with a mortality of 41 in 1,000, is said to be the least healthful country in the world; while New Zealand has the lowest death-rate, 11 in 1,000.

The Blind in France.—In a report to the Ophthalmological Society, Dr. Trousseau states that the number of blind in France reaches 31,966; a proportion of 8 in 10,000. This proportion is considerably in excess of that in Denmark, Switzerland, Austria, and above all, Holland; where it is exactly 4.46 in 10,000.

The Homes of Longevity.—It has been frequently observed that the inhabitants of islands and small peninsulas attain longer life than those of continents. The Barbadoes, Greece, Madeira and the Shetlands are quoted as illustrations of the truth of this statement.

Fourth Pan-American Medical Congress.—The Minister of the Argentine Republic at Washington has notified the Executive Committee of the Fourth Pan-American Medical Congress that his government desires the postponement of the Congress from June, 1903, to October, 1905, in order that a more fitting reception may be given delegates in Buenos Ayres; and because the earlier date would conflict somewhat with the International Congress at Madrid.

Deaths by Lightning.—There were 5,527 strokes of lightning in this country in 1899, and they caused 563 deaths.

Anniversary of New Haven Medical Association.—The New Haven Medical Association, of New Haven, Conn., will celebrate the one hundredth anniversary of its organization, on Monday and Tuesday, Jan. 5 and 6, 1903. Dr. William Osler, of Baltimore, and Dr. Francis Bacon, of New Haven, will deliver commemorative addresses, on Tuesday afternoon, in the lecture-room of the New Haven Colony Historical Society. On Monday evening a reception will be given in honor of Dr. Osler and Dr. Bacon, at the Yale School of the Fine Arts. The annual dinner of the Association will take place on Tuesday evening. The members of the committee having charge of the arrangements are Dr. Gustavus Eliot, Dr. Henry Lawrence Swain and Dr. Ralph Schuyler Goodwin, Jr.

Carnegie Institution Money to Assist Calorimeter Tests at Wesleyan.—The Carnegie Institution, which has been endowed by a gift of $10,000,000 from Andrew Carnegie for the support of scientific research, has announced the first allotment of grants for such purposes. Of the total sum, $200,000, a liberal amount has been awarded to Prof. W. O. Atwater for the prosecution of inquiries with the respiration calorimeter at Wesleyan. The especial object to be promoted is the study of the relations of oxygen to the animal economy.

Washington Post-graduate Medical School.—The circular of information of the Washington Post-Graduate Medical School of Washington, D. C., with the name of General Geo. M. Sternberg as President, and with a faculty that promises a very auspicious opening for the first term, beginning Jan. 12, 1903, has been received. In addition to the regular courses of any medical school, very excellent lines of work are laid out that will prove of immense value in equipping men to protect the nation's health at home and abroad. The prospectus includes courses in Military and Naval Medicine and Surgery, Tropical Diseases, Sanitary Chemistry, Preventive Inoculations, Serum-therapy and Biochemistry, Animal Parasites, and an exceptionally fine course in Bacteriology under Prof. Geo. M. Sternberg.

Sleeping Sickness.—The School of Tropical Medicine has issued a report on the sleeping sickness, which is now devastating Uganda. It is computed that the disease has already killed from 20,000 to 30,000 people, and is spreading to new areas with increasing virulence.

Changes in the Medical Corps of the Navy, Week Ending December 20.—P.A. Surgeon T. D. Myers, retired, detached from special duty at Naval Hospital, Philadelphia, and ordered to the Navy Yard, League Island, Pa.; P.A. Surgeon E. Thompson, detached from the Montgomery, and ordered to duty with the Marines at Culebra, W. I.; P.A. Surgeon H. H. Haas, detached from duty at Culebra, and ordered to the Montgomery; Asst. Surgeon S. S. Rodman, unexpired leave revoked, and ordered to the Pensacola; Surgeon N. J. Blackwood, detached from the Alliance, and ordered to the Chicago, via steamer sailing Dec. 27; P.A. Surgeon C. DeW. Brownell, detached from the Panther and ordered to the Alliance.

Obituary.—Dr. Alexander Denby of 147 Sumner avenue, Brooklyn, died last week at St. John's Hospital after an operation for appendicitis superinduced by typhoid fever. He was 24 years old.

Baron Richard von Krafft-Ebing, a German physician of note, who died last Monday night, was born at Mannheim in 1840. After studying at the principal universities, including Vienna, and holding important posts at Strasburg and elsewhere, he was appointed director of the provincial lunatic asylum of Styria, at Gratz, in 1873, and was subsequently professor of nervous maladies at the University of Vienna. He is known more widely throughout the world as the author of the Psychopathia Sexualis, one of the first, able and serious attempts to correlate knowledge on the subject of the sexual life of mankind.

The Plague in Mexico.—The disease which has made its appearance almost simultaneously at Lapaz, Guaymas, Mulje and Mazatlan, all situated on the Pacific coast of Mexico, is pronounced by competent medical authority to be bubonic plague. The special medical commission appointed by the government has left here to make a careful investigation. At Mazatlan the death rate from the disease is from six to ten persons daily. Every possible precaution has been ordered taken to prevent a spread of the disease.

American Medical Association.—The Committee on Scientific Research of the American Medical Association is prepared to receive applications from gentlemen engaged in scientific research bearing upon practical medicine or surgery. Five grants of $100 each will be given in support of such investigation. The results of the work in each case must be presented, either in abstract or complete, before one of the sections of the American Medical Association, preferably the Section on Pathology, at the next annual meeting to be held in New Orleans, May, 1903. All applications should be accompanied by a full statement of the applicant's previous work and training and his present facilities, as well as by a sufficient indication of the proposed or partly completed work to enable the Committee to decide upon the advisability of making a grant. Alfred Stengel, 1811 Spruce street, Philadelphia; William Osler, Baltimore; Ludwig Hektoen, Chicago, *Committee.*

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, December 13, 1902.

LORD LISTER'S JUBILEE.

GERMANY is the classic land of the jubilee. There the most insignificant Herr Professor has the anniversaries of his birth, graduation, appointment to his chair and every other occasion of his life celebrated with such pomp and circumstance as his friends can muster as often as an opportunity or an excuse can be found. Here we have left the fiftieth anniversary of Lord Lister's admission to the Fellowship of the Royal College of Surgeons of England—December 9, 1852—pass without any demonstration beyond such as may be supposed to be conveyed by a special number of the *British Medical Journal.* A younger generation of surgeons indeed has grown which knows not Joseph Lister, although it is to him that they owe such success in operating as they command.

"Listerism" is, however, accounted *vieux jeu* by the superior persons who call themselves "aseptic" surgeons, and foreigners who came among us to learn surgical cleanliness at the fountain head have expressed amazement at the things they have seen done "in the land of Lister."

Lauson Tait, who for some reason hated Lister and all his works, as rancorously as he hated Spencer Wells, used to boast that he washed out the perineum after a laparotomy with water from the kitchen tap containing 37 species of beasts. What was the cause of his spite against Lister? He was a student at Edinburgh when Lister was a teacher there, but I never heard that the two men had crossed each other's paths. Lister, however, was the son-in-law of James Syme, and between the eminent Syme and the equally eminent obstetrician, Sir James Young Simpson, there was no love lost. There was a striking physical resemblance between Simpson and Lauson Tait, of which the younger man used to boast. This accidental likeness may have perhaps, unconsciously to himself, enlisted Tait's sympathies on behalf of his prototype, and antagonism to the father-in-law may easily have been reflected to the son-in-law. Many far more obscure causes of dislike than this are known to psychology. Perhaps after all Tait's opposition to Lister may have no deeper root than the delight of the mudlark in besmattering a "toff." Lister treated his attacks with contemptuous indifference. Unlike Syme, who was ever a fighter, he has pursued the even tenor of his way without allowing himself to be dragged into personal controversy. This serenity of temper he owes partly to natural disposition, partly to training, for he is a member of the Society of Friends. His character is marked by the "sweet reasonableness" so dear to Matthew Arnold; and, though he knows his value, he has not allowed the honors which have been showered upon him to turn his head. I have not the mental constitution of a hero worshipper and I have seen Gladstone, Beaconsfield, Huxley, Manning, Browning, Balfour and other great men without any other emotion than curiosity; I confess, however, that Lord Lister has always given me an impression of simple dignity combined with a massive strength, both of intellect and character, such as I have never received from any other man. You feel that the man is a strong tower, built throughout of truth and honesty and standing four-square to all the winds of falsehood, jealousy and malice.

Lister's career has fortunately been free from the obstacles which beset the paths of most scientific workers. He has never had to learn by experience the truth of Johnson's bitter line

> "Slow rises truth by poverty deprest."

He never had to leave an experiment, like John Hunter, to earn a d——d guinea because he would be sure to want it the next day. His father, Joseph Jackson Lister, not only made improvements of the greatest importance in the structure of the achromatic microscope, but described for the first time the running together of the red corpuscles of the blood into rouleaux, and made a number of observations on the structure of muscles, nerves and arteries. Young Lister was further fortunate in being soon after graduation taken under the wing of Syme, then beyond all question the foremost surgeon in the United Kingdom. This gave him opportunities of clinical study for which in the ordinary course of events he would have had to wait several years. Syme believed in him, and encouraged him when in almost every other quarter he was met with doubt, disbelief or open ridicule. It is a striking testimony to the personality of the man that from the first he had a commanding influence over the minds of his pupils. It must, indeed, have been an enviable experience for young men to work under a chief who daily did successfully things either "not in the books" or utterly condemned in them; who showed them every detail of his work and allowed them to follow every movement of his mind. These men, many of whom came from distant countries, had the privilege of seeing the greatest advance in the healing art ever accomplished through every phase of its evolution from its tentative beginnings to its glorious consummation.

Yet it was but slowly that the new doctrine gained acceptance in the country of its birth. Even at Edinburgh side by side with Lister, there were colleagues who continued to the end to dress their wounds by the old primitive methods. In London it was not till more than 100 years after its promulgation that the new method found any favor in the eyes of London surgeons. Marcus Beck, a relative of Lister's, who was surgeon at University College Hospital, was an active preacher of the Listerian gospel, and after a time his voice, which for some years was as one crying in the wilderness, was reinforced by that of Rickman J. Godlee, a nephew of Lister's. Christopher Heath, who had previously been a scoffer, went to Edinburgh where he saw Lister shell out nearly the whole of a necrosed femur. The wound, which extended from the trochanter to the condyle, healed without suppuration, and in so short a time that Heath was converted on the spot. He returned to London so ardent a Listerite that with the excessive zeal of the convert, he insisted on the ritual of the method being carried out, even in the most trivial detail, exactly according to the Edinburgh rubric.

Among the innumerable distinctions that have fallen to the lot of Lord Lister there is one which is unique. He is the only surgeon whose hand touched the sacred flesh of the late Queen Victoria. It was a somewhat troublesome abscess and he dealt with it with perfect success. When the question of the operation on the King was discussed, it was said that he was in favor of a temporizing policy. But the boldest innovator becomes cautious in old age, and Lister was always, even when he was breaking the table of the laws of the older surgery, eminently "safe."

It may be mentioned as a proof of the high esteem in which medical science is held in this enlightened country that not a single newspaper, as far as I know, has taken any notice of Lister's jubilee.

Lord Lister, who is now in his seventy-sixth year, is still a hale and hearty man. During the past few months, however, he has suffered much from rheumatoid arthritis, and has lost a number of teeth. The lower part of his face has thus fallen away, giving him an aspect of senility, which he had not before. But his robust frame gives promise of many years of life, and he takes the keenest interest in the development of science in every direction.

ANTIVIVISECTION.

To the Editor of the Medical News:

Open letter to the Hon. Jacob H. Gallinger, Chairman
of the Senate Committee on the District of
Columbia, Washington, D. C.

Dear Sir: I observe in the newspapers of December 15, a letter from you dated December 13, and addressed to me. Although I have never received from you a copy of this letter, I feel that it is proper for me to make a brief reply.

Your suggestion of self-advertisement hardly needs notice. I think after 40 years of an active professional life as a teacher, author and practitioner of surgery, I shall readily be acquitted of having had such a motive.

I had but one object in my letter. It has been denied again and again by antivivisectionists that any good result follows from experiments upon animals. The case of Midshipman Aiken is only one of hundreds of similar cases operated on by many surgeons the world over, but as it was a striking illustration of such benefit to man, and as it had already attracted attention all over the country, I deemed it proper to use it as a convincing proof of the usefulness and humanity of vivisection. That my letter has had the effect I hoped, is shown by a pertinent editorial comment upon it, that one such brave young life "saved through the results of vivisection will count against tons of Zoöphilist literature." With the exception of, perhaps, half a dozen experiments which I did in 1866, I have never myself performed any experiments upon animals, but scarcely a day of my life passes without my using the results of such experiments to the immense benefit of my patients as shown in this case.

Although you took a medical degree many years ago, I think I am correct in believing that for a long time you have not practised your profession. Your arduous and useful life in the Senate has necessarily prevented you from keeping up with the progress of surgery. It is difficult for me, devoting all my time to it, to keep abreast of this progress and it must be impossible for you to do so. I do not wonder, therefore, that you do not know accurately either the facts or the sources of the wonderful progress which surgery has made, especially in the last 25 years. You certainly would not have asked the question whether a clot of blood measuring nine tablespoonfuls would be absorbed from the brain if you were cognizant of modern pathology and modern surgery. Nor would you assert that the brains of animals and the brain of man differ so much that the localization of the functions of the human brain has not been determined by experimentation upon animals. If you will look at the epoch-making article of Horsley in the *American Journal of the Medical Sciences* for April, 1887, p. 342, you will see the facts set forth in reference to cerebral localization as determined upon animals. I do not hesitate to assert that with minor differences, these facts derived from experiments upon animals are applied surgically to the brain of man with the greatest exactness. In common with many other surgeons, I have done so scores and scores of times, and so far as I remember without being misled on a single occasion. Indeed, for twelve years past, a drawing of the brain of a monkey has been used in the American Text-Book of Surgery to show the location of the centres in the human brain.

You have quoted Prof. Ferrier to show the discrepancies in inferences from experiments upon the brain of various animals. If you will look at the preface to the first edition of his Functions of the Brain, p. xiv, you will read "Notwithstanding these difficulties and discrepancies, many of which will be found, on careful examination, to be more apparent than real, *experiments on animals, under conditions selected and varied at the will of the experimenter, are alone capable of furnishing precise data for sound inductions as to the functions of the brain* and its various parts; the experiments performed for us by nature, in the form of diseased conditions, being rarely limited, or free from such complications as render analysis and the discovery of cause and effect extremely difficult, and in many cases practically impossible."

Were it not for such work as that done by Horsley and Ferrier, and others who preceded them, as well as for many subsequent researches, we should now be in almost absolute ignorance of the location of most of the centres of the brain. Occasional postmortem examinations have thrown some light upon the subject, but to work out a scheme, such as is presented in Horsley's paper *could not have been done by postmortem records.* Moreover, the complete answer to your criticism is that as a matter of fact, *it never was done until experiment upon animals made it possible.* Were it not for experiment upon animals, medicine would be to-day in the wretched darkness of thirty years ago, and we surgeons would be practicing the unintentional cruelty to man of the surgery of the Civil War.

My many antivivisectionist friends, however, though they do not even pretend to have studied surgery, seem to know offhand a great deal more about it than I do.

As to the cases of cruelty you recite, every humane person would condemn them utterly. But allow me to call your attention to the fact that you give no data by which I can refer to the original statements. At the hearing you refer to (page 31), you quoted and had printed in the Senate Document mere newspaper gossip from unknown correspondents, accusing the medical profession (to which you still claim to belong) of horrible cruelties in the Vienna hospitals. Your present citations are equally impossible of verification. Moreover, assuming them to be true, anyone reading your letter would suppose that these cruelties occurred daily in most laboratories, a supposition which is absolutely untrue. The great majority of experiments upon animals are almost entirely painless. If the cruelties you cite occurred in the United States, existing laws are fully capable of dealing with them. Instead of these laws your proposed bills would create a system which in its administration by laymen who know nothing of medicine or surgery, would not only aim to prevent cruelties which do not exist here, but also arrest researches which would be of far-reaching importance to mankind and animals. This is what I had in mind when I said in reply to your question that such legislation would be unwise.

You take issue with me as to the character of the legislation which you have proposed. I have read all of these bills carefully and I think I am correct in my statement at the beginning of my letter that they were "nominally for regulating experiments upon animals in the District of Columbia," but that they "would, in fact, prohibit many, if not all, of them" if they had become laws. If this be so, I cannot but regard them as cruel and inhumane legislation, very much as if a law were passed forbidding any person to aid in rescuing a drowning man.

It was clearly shown at the hearing before the Senate Committee of the District of Columbia (February 21, 1900), that the bill then under consideration, if enacted into law, was capable of being so administered by the laymen charged with its administration as to prohibit all experiments upon animals, that in express terms it absolutely prohibited many important and useful lines of experimentation, including some of those relating to the localization of brain centres, and that it surrounded the practice of animal experimentation with many absurd and vexatious restrictions.

The avowed object of the great majority of antivivisectionists is to obtain restriction or regulation of vivisection as a stepping stone to its entire abolition. The reason for the persistent attempts to have Congress pass such laws for the District of Columbia is that they may use this action as a lever upon the various State legislatures.

Allow me in closing this correspondence, so far as I am concerned, to state that I have no doubt that your motives are humane and sincere, but I believe that they are misdirected to such an extent that the result of your efforts, if successful, would be not only to mankind, but to animals as well, both cruel and inhumane.

I have the honor to be,

Yours very respectfully,

Philadelphia, Dec. 20, 1902. W. W. KEEN.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

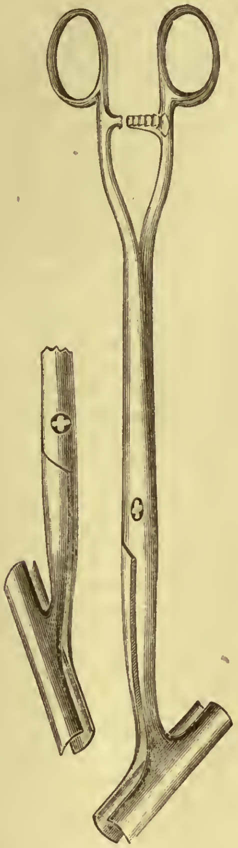
Stated Meeting, held November 19, 1902.

SECTION ON GENITO-URINARY SURGERY.

John Van der Poel, M.D., in the Chair.

Forceps for Removing Instruments from the Sterilizer.—Dr. John Van der Poel showed a forceps intended for removing instruments from the sterilizer (see illustration). The idea first suggested itself as to its use for sounds and urethral instruments, to prevent the slipping and scratching which is apt to occur when the ordinary dressing forceps are used for this purpose, but experience with it had demonstrated its adaptability also for small instruments, even needles being readily grasped and picked up from a plane surface with it. It needs no explanation, except perhaps that the angle at which the handles meet the blades, was so constructed in order to keep the hands well away from the sterilizer, when an instrument is quickly needed, and the cover of the sterilizer had just been removed, thus preventing any scalding of the hands by steam. The length of the blades is 5½ centimeters, the depth from above downwards is one cm., and the greatest distance between the blades in the centre is one-half cm. The handles or shanks are sufficiently powerful and long to remove or lift any instrument that is in ordinary use.

Specimen of Ureteral Stricture.—Dr. Eugene Fuller presented this specimen which had been removed postmortem from a patient in the City Hospital who had been transferred from the surgical ward to his department. Before coming to his ward the patient had been operated upon for a hernia under spinal anesthesia. This was interesting because it showed how a patient can survive with extensively damaged kidneys. The patient was in a low uremic condition when first seen. A diagnosis of pyelitis of an intense grade was made. The patient had a hypertrophied bladder and enlargement of the prostate, but was in no physical condition to stand an operation. Three weeks later the patient died. There was then found an extreme dilatation of both ureters; one was pyonephrotic and its pelvic wall was so thin as to resemble gold-beater's skin. The wall of the corresponding ureter was much attenuated and there was one tight stricture at the uretero-vesical entrance. The whole ureter was dilated, being ballooned out as it were, down as far as the uretero-vesical entrance where it was almost impossible to find the outlet through the stricture. Upon opening the bladder there could be found no depression at all to mark the ureteral outlet. By gentle prodding with a fine probe the entrance, which was only large enough for the urine to trickle through, was finally found. The stricture must have come on very gradually to get such an amount of distention; if it had come on quickly there would have been an atrophy of the kidney. On the other side there was a thickening of the ureter and two strictures, one at the lower third and one at the uretero-vesical orifice. The bladder was very much hypertrophied. Another point of interest was that this patient with such extensive renal disease had been able two months previously to survive and convalesce from an operation for hernia. The operation was reported to have been done under cocaine spinal anesthesia.



Urethral Calculi.—Dr. M. W. Ware presented these specimens. The first shown was removed from a child, four years of age, who was brought by his mother to the clinic; the mother stated that the child had a urethral discharge. At first this was baffling because there was no evidence of gonococci in the discharge. One day when there was a scanty discharge upon massaging the urethra the hand felt a hard body which was thought at first to be a peri-urethral abscess. But it occurred to us that it might be a stone and upon passing a probe we obtained contact. The calculus was tightly wedged and the method of removing it came up for consideration. A fine, sharp spoon, having a long shank, was passed, and this was employed in removing the stone by leverage, with the the child under an anesthetic. With the removal of the stone there was a prompt cessation of the discharge within 24 hours.

The second urethral calculus shown was removed from an adult thirty-eight years old. When he presented himself at the clinic he stated that he felt a small lump. It was thought to be an infiltration about the urethra, or a calculus; the mass was quite hard and very appreciable with the sound. The sharp spoon was tried, as in the previous case, to pry it out. Attention is called to the use of the sharp spoon for purposes of dislodging stones in the urethra, which are quite tightly lodged.

Dr. Ramon Guiteras, referring to the incision in the pendulous portion of the urethra, asked regarding the propriety of closing the incision at once; if that was done, what was the method used?

Dr. John F. Erdmann said he had shown two such calculi within the past year or two. One was obtained from a child, five years old, by making an incision into the penile urethra and closing the wound immediately by deep sutures, with another row of sutures external to these.

In the second case a stone was removed almost as large as a small olive from the penile urethra of an adult. In this instance also the urethra was incised and sewed with the double row of sutures. In neither case did any trouble follow.

Dr. W. K. Otis said that he had found, after removing a large number of such stones, that the endoscope is of little value. He believed that these stones could be more easily removed by forceps through the urethra. These stones form in the bladder and, as they pass out, stick at a contracted point in the urethra; frequently they could be pushed back into the bladder and then crushed with a small lithotrite.

Dr. Eugene Fuller congratulated Dr. Erdmann upon his results in cutting through the pendulous portion of the urethra. He would not like to recommend it because he had seen so many bad fistulæ in the penile urethra resulting from such a procedure. He would prefer cutting through the perineum, pushing the stone down, and so avoid cutting through the pendulous portion, which makes such a disagreeable wound. He had under his observation a man with an impacted stone of large size; he had a fistula in the pendulous portion. It was probably a gonorrheal affair from a periurethral abscess and some one had unfortunately cut through the pendulous portion, leaving this fistula. In this tract a stone had formed and increased in size until it was 1½ inches long. It caused the penis to remain in a state of semi-erection. With such a condition it seemed a very simple matter to cut down and take it out, but the man had an underlying tuberculous history. He removed the stone by first drawing the scrotum up over it, then cutting through the scrotal tissues, the operation being completed by plastic work. A good result followed. In this case, if the stone had been removed by slitting up the fistulous tract a very extensive penile fistula would in all probability have resulted through which, on urination all the flow would have passed leaving the patient in a very unsatisfactory condition.

Dr. Charles H. Chetwood said that, in his experience, when an opening made in the pendulous urethra was primarily surgical, it healed rapidly; but when it was due to ulceration, or there was a preexistent fistula, it was likely to be very protracted and to close with great difficulty.

Dr. A. A. Berg said that, in his experience, in closing wounds in the pendulous portion of the urethra, there was little difficulty in doing so if one used the catheter *à demeure;* it would then apparently heal as kindly as in any other portion of the canal.

Dr. Ramon Guiteras said that he had had a great deal of experience with stones situated in the urethra. In some cases he sewed at once with good results; in others, a fistula remained and a perineal section was demanded to drain off the urine and give the pendulous portion of the urethra a rest. He had also found calculi in the urethra which he could not get out with spoons or forceps of different makes. Stones that were found in the bulbous portion of the urethra he removed by an external perineal urethrotomy. In one case he had a great deal of difficulty in getting the stone out through the perineal incision, the stone was so tightly wedged.

Dr. M. W. Ware said he had found the large stone in the bulbous portion of the urethra estimated by passing a sound and by palpation. It was tightly lodged and so he decided to lift it out with the aid of the spoon; the stone slipped and was found more forward. He then attempted to throw in some water, hoping that the water would get behind the stone and bring it forward by hydraulic pressure, such as is sometimes used by otologists. He did this once in a child and succeeded in getting out a small stone. The operation was done under cocaine anesthesia and the wound was not sewn up at all. With the finger behind the stone, with pressure, he succeeded in getting it through the incision. The fistula remained but 10 days.

Specimens of Urethral Calculi.—Dr. H. Goldenberg presented two stones which Dr. Berg and he had removed that afternoon from a patient at the Mt. Sinai Hospital. The patient was sixty-five years of age and had been passing bloody urine intermittently for the last four years, the bleeding continuing after urination. There was a painful and frequent micturition. The urine was alkaline and contained pus and blood. Dr. A. A. Berg attempted to introduce a searcher but failed to succeed on account of an obstruction about two inches behind the meatus. There was a moderately enlarged prostate, especially at the apex of the left lobe. It was impossible to pass a No. 10 steel sound but a soft rubber bougie passed the stricture but gave the sensation of grating due to a calculus. After an internal urethrotomy with Maisonneuve the stone was caught with forceps and, in the attempt to remove it, was crushed and taken out in pieces. Then another and larger stone was felt deep in the perineum which, by careful and gentle massage from behind was safely delivered *in toto* through the urethra.

Dr. Van der Poel recently had a case of pyonephrosis in which he had attempted to catheterize the right ureter. Upon each attempt an obstruction was found in the ureter about one cm. beyond the opening into the bladder, and beyond which it was impossible to pass the catheter without first passing a ureteral bougie, then withdrawing it, and rapidly introducing the catheter afterward. Several times an obstruction was also found at about four cm. upward, and as the patient had what was thought to be a congenital stricture of the pendulous portion of the urethra, requiring the passage of a full-sized steel sound before the cystoscope could be introduced, it was surmised that the same condition existed in the ureter. Upon palpation of the kidney however, it was found that that organ was loose, and sagged downward, though not to any marked degree, and when it was held in position by an assistant there was no difficulty whatever in passing a catheter, which went on to the pelvis of the kidney without further trouble. He thought that this was a point to be borne in mind, and although the difficulty in this case could have been avoided by palpating the kidney in the first instance, it was liable to occur at any time. As regards the diagnosis of the point of stricture in cases of hydronephrosis, in three cases recently seen, in which nephrotomy had been performed, it was found impossible to find the mouth of the ureter of the affected side at all (the other side being apparently normal), evidently non-usage of the diseased ureter having probably caused an atrophy of the tissues in its lower part, or a closing of its mouth. In one case there was considerable congestion of the mucous membrane in patches about the region of the normal opening of the ureter, which might have obscured the opening, and probably did to some extent, though the case had previously been attempted by a prominent genito-urinary surgeon of this city, with a similar result.

A Case of One Retained Testicle and One Misplaced Testicle.—Dr. Ramon Guiteras presented this patient, who had a congenital condition of retained testicle upon the right side and misplaced testicle upon the left. With the misplaced testicle there was much thickening due, so he thought, to repeated attacks of epididymitis. Transmitted light failed to show any fluid in the tumor but he thought probably that there was also a spermatocele or hydrocele of the cord. He thought there might be, in addition, hernia, possibly incarcerated but more probably reducible. It was not easy to say positively as there was no impulse on coughing in the mass when it was held up, although there was an impulse beneath it at the base, especially marked when the patient was standing. The patient had had repeated attacks of epididymitis upon the left side, and with each attack the tumor would become larger and became more tense. The patient's sexual life was all right.

Dr. Eugene Fuller diagnosed the case a bubonocele, which, together with intestine contained also the undescended testicle.

Dr. A. V. Moschcowitz partly agreed with Dr. Fuller. He, however, thought it was a case of inguinal superficial hernia described by Küster. Only last Monday he had shown a case of this abnormality before the Surgical Section. In these cases the testicle and hernia does not come down into the scrotum, but is reflected upward and lies between the aponeurosis of the external oblique muscle on one hand and the skin and superficial fascia on the other. Such conditions were hard to reduce on account of the tortuosity of the sac. In the ordinary oblique inguinal hernia taxis should be employed and pressure made outward and backward; but in this instance it should be applied downward and inward, then upward and outward and then backward.

Dr. A. A. Berg said that there were no evidences in the patient's career that pointed to such a congenital process. He believed that it was a congenital hernia with an ectopic testicle. Certain hard masses were felt over the cord and the congenital hernia he believed to be behind it.

Dr. Guiteras stated that he had only seen the patient for the first time last night at the clinic. This lump had been present as long as the patient can remember. Occasionally it becomes inflamed, red and tense, lasts a few days and then passes away; this, he thought, was his attacks of epididymitis. He believed that the patient had a retained testicle on one side and a misplaced testicle on the other, with probably a hernia beneath it.

The Facts in a Case of Hematuria.—Dr. Charles H. Chetwood read this paper. (This will be published in the MEDICAL NEWS at an early date.)

Dr. M. W. Ware said that the specimen under the microscope helped to show what Isreal and Senator had pointed out, that the so-called "essential hematuria" depended on chronic interstitial changes in the kidney. Last year he had had submitted to him a specimen removed from a patient who gave the same history as Dr. Chetwood's, and though the cystoscope showed blood flowing from the ureter and nothing at all was found in the kidney at operation, yet excised portions of it showed similar changes as shown to-night.

Dr. Van der Poel thought that the so-called condition of essential hematuria was becoming less and less frequent, on account of the frequency of cystoscopic examinations, of ureteral catheterizations, and of operations upon the kidney, all having their place in localizing the source of hemorrhage, and the cause of it. After an exhaustive examination of cases published as such up to 1899, Malherbe and Legue would admit of but five as being essential hematuria, all others being due to tuberculosis, lithiasis, growths, or sclerosis.

Dr. Chetwood said in conclusion that there might be some doubt in the minds of those present as to whether the ureter was open after the operation. In proof of it he stated that pus had been found in the urine for the first time on the second or third day following the operation; and, in the second place, that, when the drain in the kidney was taken away, the first urine passed within an hour later contained a free quantity of fresh blood; while four hours later, the next specimen passed became perfectly clear.

This case might come under the head of those which were classed as essential or angio-neurotic hematuria; but he thought that most cases which had been classified thus would present some microscopic lesion of the kidney to account for the blood.

Repair of Defects in the Male Urethra.—Dr. A. A. Berg presented a patient apropos of the discussion at the last meeting, when there seemed to be some question as to the advisability of closing the wound at the time of operation. The patient presented was in the hospital with a perineal fistula, the result of an abscess from the external urethrotomy operation. He decided to make a closure of the fistula and, instead of closing it entirely, he drained one angle through fear of urinary extravasation. His experience was exactly the same as Guyon's; by the side of the drain a leakage occurred. In cases in which the wound was completely closed there was no leakage. In this patient a small strip of gauze had been inserted; the opening closed in from eight to 10 days. According to Guyon's and his own experiences the wound should be closed completely. Guyon had done nine cases in which he completely closed the wound with no leakage.

Prostatic Calculi: With Report of a Case.—Dr. John F. Erdmann read this paper. (This will appear in a subsequent issue of the MEDICAL NEWS.)

Dr. Ramon Guiteras recalled a patient who was in the City Hospital suffering from frequency in urination, which had been going on for some weeks. Upon attempting to examine the bladder through the urethra nothing could be passed beyond the prostatic portion; some impediment there even prevented the passing of a filiform. He decided to do a perineal urethrotomy, first cutting down upon and opening the membranous urethra; he then succeeded in passing a fine delicate silver probe past the obstruction. A knife was then passed along the groove into the bladder when the finger could be inserted, which felt the apex of a mound where the floor of the urethra had been opened; through the opening he felt several small calculi. After expressing them, curetting out some of them with a small curette, the finger could feel the cavity left. The wound was drained as after an external urethrotomy and the man made a perfect recovery. The case was interesting in that it showed how many things might make an impassable stricture. It also showed that when the impediment was in the prostatic urethra the impediment was rarely the stricture, there being either a deformity of some kind, or else a condition left through an ulceration which leaves some deformity or else some cicatricial tissue, which prevents the passage of, as in this instance, a small probe.

Dr. Eugene Fuller said that two years ago he reported two similar cases. In one case the patient developed tuberculosis afterward. It seemed to him that there was a condition of localized tuberculosis, with necrosis, which left a cavity in which the stones had formed. They certainly formed in cavities which seemed to be lined by granulations. Just what the action was he did not know, unless it was tuberculous. At the City Hospital, some time ago, in making a cross section of a prostate a spot as big as a cherry of softening was found, the spot representing an area of tuberculous necrosis, just like the soft spaces that are spoken of in the brain. If the patient with this necrotic spot had survived the necrotic material would have slowly been absorbed, leaving a cavity just like the one in which prostatic calculi are at times found to exist. Such, it seemed to the speaker, was the etiology of these prostatic cavities.

Dr. Klotz was interested in learning the chemical nature of these calculi. He presented one-half of a calculus which had been evacuated from the prostate of a patient who for years had suffered from frequent emissions, three or four every week, followed by sharp pains. It was always extremely painful, at times impossible to pass a sound. One day after an examination of the rectum, when the calculus could be distinctly felt in the prostate, the patient while urinating dropped the calculus into the basin. The spindle-shaped calculus measured more than one-half inch in length and had a rough surface. Unfortunately the patient could not be observed long enough to watch the effect of the removal of the calculus upon the frequency of the emissions.

A New Use for Thyroid Extract: a Cure, or at Least a Complete Control of Hemophilia Through Its Administration.—Dr. Eugene Fuller read this paper. (This will be published in MEDICAL NEWS.)

Dr. Goldenberg asked Dr. Fuller if the patient referred to was a boy who lived in Newark. He had had the same experience with various drugs with a hemophilic patient who had hematuria and he believed he was the same person.

Dr. Fuller answered that he was.

Dr. Goldenberg said if this was the case, he would warn against drawing conclusions as to the therapeutic value of the thyroid extract from this single case. The boy had been under his observation for a short time, about two years ago, and during this time the patient had been in a similar—as the father stated moribund—condition, from which he rallied with or without treatment. At one time the father of the patient had been rather enthusiastic as to the value of the gelatin treatment which he was put under. In conclusion the speaker asks if the patient was sufficiently long under observation to note whether there were relapses or not and if the cure was permanent.

Dr. Ware said he could answer questions regarding the whole family which he had observed for five years or more, photographs of which had been published in a book recently. The same patient had come to him about six weeks ago and again presented the condition of hematuria; he came then from the Post-Graduate Hospital, where he said he had gotten something which did the work all right and he asked that he be given the same drug. He ran the gauntlet of remedies without much success and had even used thyroid extract without effect. These hemorrhages cease spontaneously.

Dr. B. Lapowski said he had been familiar with the use of the thyroid extract since 1898 and that it had been used by physicians in England before that time in hemorrhages occurring in mucous membranes of the stomach and intestines with good results. Cases had been reported in the British Medical Journal in 1897 and 1898. He did not think anybody up to the present time had used the thyroid extract in hemophilia, as Dr. Fuller described. He thought that possibly the thyroid extract might have something to do with the composition of the blood and experimental work must be done in order to obtain an explanation of its action in such conditions as were referred to. The good temporal results on the heart and vessels may possibly be due to action of thyroid extract contracting the latter for a time.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, December 2, 1902.

The President, Joseph Collins, M.D., in the Chair.

Generalized Scleroderma with Vascular Spasm of the Tongue.—Dr. Joseph Fraenkel presented a girl showing generalized scleroderma and called attention to a peculiar symptom. After the use of the tongue the patient complained of some pain in this organ, and inspection showed a vasomotor spasm leading to the production of an area of whiteness and dryness on the tongue.

A Case of Congenital Multiple Sclerosis.—Dr. Fraenkel also presented this patient, a girl of seven years. The parents are cousins. Five other children are in the family and are living and well. One child died in infancy, having apparently suffered from the same disorder as this patient. The child presented was born after an easy and natural labor, but did neither walk nor talk. The head was small and the eyes had the Mongolian set. Vision and hearing were apparently normal, and the child was docile. Nystagmus was observed on making the little one look upward. The patient was unable to stand or sit up without assistance, and the gait was typically ataxic. The speech was defective and somewhat syllabic. There was no actual motor paralysis. There was marked incoordination of the muscles of the upper extremities of the intentional type, more marked on the right side. The reflexes were normal. Both feet were very red in consequence of vasomotor disturbance. The only diagnosis that he could make was congenital multiple sclerosis.

A Case of Subacute Poliomyelitis.—Dr. J. Ramsey Hunt presented a man, thirty-nine years of age, a boiler-maker by occupation. In 1889 there was an initial lesion apparently followed by a mucous patch on the tongue, but he received no internal treatment. Nine years ago he worked for a time in a white lead factory, but developed at that time no symptoms of lead poisoning. His present trouble dated back to last January. The first symptom was a weakness or stiffness of the arms, but he was able to continue at his arduous work of wielding a sledge hammer. Finally one day he became paralyzed. When seen, five months later, the muscles about the left shoulder were paralyzed and gave a complete reaction of degeneration, while the other muscles were normal. One month later some weakness was experienced on the other side, and this was followed by almost complete paralysis about a week later. There were no electrical changes, but there were fibrillary twitchings. The reaction of degeneration appeared in two or three weeks in those muscles corresponding to injury at Erb's point, but some improvement subsequently took place. The paralysis at the present time had the same localization. There was an exaggerated tendon reflex, but no sensory symptoms were present. The man was under large doses of iodide at the time of the second paralysis.

Dr. Pearce Bailey said that he had seen two similar cases, in which the course was acute and was localized in the shoulder girdle muscles. Both of these patients were syphilitic. He regarded the condition as a localized syphilitic myelitis, probably asscciated with hemorrhages.

Dr. B. Sachs said he was disposed to look upon this as a case of specific amyotrophic lateral sclerosis.

Dr. Fraenkel said that it was an old notion that lead paralysis developed in the muscles most used, and this seemed to apply to the case under discussion. He was not willing to entirely exclude lead.

Dr. Joseph Collins presented for Dr. I. Abrahamson a similar case, occurring in a man of forty-eight years, a plumber's helper. He had had syphilis when thirty-six years old, for which he had received treatment for two months. He was well until the last of August, 1902, when he noticed, while wielding a hammer with the left hand, that the left upper extremity was becoming powerless, and from that time to this he had not been able to use this extremity. Two or three weeks afterward he complained of weakness of the right forearm. A few weeks later he noticed that the left shoulder was shrunken. At present there were: (1) Atrophy of the left shoulder muscles, biceps, triceps and forearm muscles, especially the flexors and atrophy to a slighter degree of the flexors of the right forearm; (2) fibrillary twitching of the most atrophied muscles; (3) exaggeration of all the tendon jerks; (4) weakness of the legs; (5) pin-point pupils; (6) no sensory disturbances, and (7) no typical reaction of degeneration in the atrophying muscles. The case was considered to be one of amyotrophic lateral sclerosis on a syphilitic basis. It was not unlikely that the pathological process was a focal syphilitic degeneration of the cervical cord, the ventral horns being principally involved. The primary change was probably in the vessels. Clinically, this case, and the case presented by Dr. Hunt, must be looked upon as amyotrophic lateral sclerosis.

Dr. Hunt said he believed his case differed from an amyotrophic lateral sclerosis in its acute onset and course. The onset must have been accompanied by a great deal of edema.

Dr. Adolf Meyer presented a young man, who in 1894 injured the vertex by diving and striking a rock. Since that time there had been increasingly severe headache, and in 1897 ocular symptoms appeared. After awhile both eyes became blind, the last sector from which vision disappeared being the right upper one of the field of vision. In 1899 he experienced peculiar attacks of numbness on the left side of the face, occurring from 10 to 15 times a day. In August, 1900, there had suddenly appeared an oozing of fluid from the right nostril. This was followed by an improvement in all the symptoms. At the present time there was no facial palsy, but on opening the mouth, the jaw deviates to the right. Several times the patient while suffering from a cold causing occlusion of the nostrils, had gone into a deep sleep. Last May, without any such occlusion of the nose, there was a general convulsion, and these attacks were repeated this fall. Some months ago there was a strong tendency to walk in a circle. The speaker said that he had seen the patient soon after the oozing had begun, and then it was possible to demonstrate in the fluid reducing substances. At present, this fluid contained glucose, so that it was undoubtedly cerebrospinal fluid.

Dr. William M. Leszynsky said that he had had the pleasure of studying the case reported by Dr. W. Freudenthal. That patient was a woman of about fifty-five years of age, who suffered a good deal from headache. There was a mild optic neuritis affecting both eyes, and the fluid escaped from the nose periodically in large quantities. There was no somnolence, and the patient was chiefly disturbed by the discharge of fluid.

Dr. B. Sachs said that he had had under observation for four years a girl afflicted with an unquestioned tumor of the brain, its presence having been demonstrated by trephining. The girl had improved very much, although blindness persisted. For more than a year there had been periodic oozings from one nostril. Examination proved the fluid to be cerebrospinal. The symptoms had been greatly relieved by the oozing of this fluid.

Dr. J. Ramsey Hunt said that he had seen a woman in Bellevue Hospital, last winter, who had been shot through the head. There was paralysis of the motor portion of the fifth nerve and a partial paralysis of the seventh nerve on the left side, with electrical changes showing the peripheral origin. The patient recovered quickly, and left the hospital in two weeks. At this time there was an occasional and scanty oozing of perfectly clear fluid from the nostril. It probably resulted from a comminution of the ethmoid and frontal bones.

Dr. Meyer said it seemed to be absolutely certain that the optic chiasm had been destroyed in his case by a tumor. It was probable that this case, as well as the one reported by Dr. Sachs, explained how this escape of fluid greatly prolonged the duration.

Amyotrophic Lateral Sclerosis.—Dr. Joseph Collins presented a paper on this subject. He said that this was among the rarest of all organic nervous diseases, and the diagnosis having only been made in his clinic seven times out of about 7,000 cases. In 10 years at the City Hospital, where chronic nervous diseases were very common, he had not seen more than seven or eight cases. The general knowledge of the disease dated from Charcot's classical description in 1874. The following case was reported very briefly: The patient was a woman, thirty-seven years of age, who complained of pain in the head, and in the muscles supporting the head. There were atrophy of the muscles of the shoulder girdle, neck and hands, slight spasticity of the muscles of the upper extremities and Babinski phenomena. There were early and profound bulbar manifestations. The duration of the disease was about three years. This patient also suffered from what he took to be major hysteria. The chief pathological findings were: (1) Uniform disappearance of the ventral horn cells throughout the entire cord, affecting possibly the dorsal region more severely than the cord enlargements; (2) a zone of degeneration in the cervical and dorsal region encircling the horns; (3) a marginal strip of peculiar shape in the lumbar region; (4) deformity of the ventral face of the cord, due to a concave sinking in of the periphery; (5) a neuroglia proliferation in the degenerated white matter and also in the anterior horns cord enlargements; (6) evidence that the neuroglia proliferation was older in the cervical region; (7) atrophy of the anterior roots; (8) distinct evidence of cell degeneration, and (9) the pyramidal tracts were intact.

The question of whether the peripheral motor neurons or the central motor neurons were the first to be involved could not be stated. It was probable that in some cases the one, and in other cases, the other was first affected. He thought the lesion in some cases began in the anterior horn, and the destruction of the cells there resulted in part in the disease, and accounted for the pathological findings. It was the decay of the column cells which caused the degeneration of the white matter in the case just cited. Destruction of these column cells led to the destruction of the fundamental columns. It was true this did not occur in every case because in such cases the destructive lesion of the spinal cells confined itself to the root cells and the column cells were not implicated. This probably explained all those cases of progressive muscular atrophy with changes in the white matter. There were now 11 cases on record in which the pathological process involved both systems of neurons in their entirety. However, the disease might exist in its most typical form without any involvement whatever of the pyramidal tracts. The changes in the spinal cord sometimes extended to the posterior columns, though the significance of this was not yet known. The speaker thought it must be admitted that amyotrophic lateral sclerosis was a different disease from spinal progressive muscular atrophy because of the different clinical course and anatomical changes. In amyotrophic lateral sclerosis there was a poison capable of destroying both the white and the gray matter. Whether this disease was a part of primary progressive muscular atrophy was another question, and, in his opinion, should be answered in the negative. The etiology of amyotrophic lateral sclerosis was very obscure. After a careful examination of the entire literature he had selected the records of 94 typical cases, and had added to them nine of his own, four of them with autopsy. Of the 103 cases, 54 were males and 49 females. It was generally held that the disease was more frequent between the ages of thirty and forty, but in the hundred selected cases the fourth and fifth decades were found to be equally liable to the affection. The average duration of the disease was two years, though the minimum was a few months and the maximum nine years. The upper extremity was affected first in 39 cases; the lower in 14 and the upper and lower extremities simultaneously in 11 cases, while the disease came on with bulbar symptoms in 21 cases. In the last mentioned cases atrophy or spasticity or both appeared very soon in other parts of the body. Trauma did not seem to be an adequate cause of the disease. Overwork, and especially that of gold-beaters, embroiderers, and others, calling for exhausting work of special sets of muscles, did not seem to enter into the etiology. The disease occurred most among the working classes. A number of cases had developed shortly after parturition. Six of the patients gave a history of syphilis, but this was probably not more than the actual percentage of syphilization. In two of these cases, both his own, there might have been some relationship between the syphilitic infection and the amyotrophic lateral sclerosis. It was worthy of note that many of these patients had had syphilis, and had been workers in lead.

Dr. B. Sachs said that he thought the term, amyotrophic lateral sclerosis, was a far better clinical than anatomical designation. Clinically, the disease was recognized by the combination of spastic paraplegia with atrophic paralysis. The clinician could hardly avoid being impressed with the fact that there was not a single anatomical lesion for all these cases. In recent years he had seen quite a number of cases which he had labeled "spinal syphilis of the amyotrophic type," but he would not think of classifying them as true amyotrophic lateral sclerosis. He believed the relationship between amyotrophic lateral sclerosis and progressive muscular atrophy was closer than Dr. Collins supposed. Some cases of progressive muscular atrophy went on for a very long time without lateral column symptoms; in other cases, spasticity was an early symptom. These differences seemed to be explicable by a difference in the acuteness of the disease as affecting the gray matter. In progressive muscular atrophy of the ordinary type the process was a very much slower one than in amyotrophic lateral sclerosis. He would not be willing to draw a sharp line of demarcation between the two diseases, for, he felt they were closely allied. He had been very much impressed with Gowers' lecture on abyotrophy or special vital defect. He doubted if those afflicted with either one of these two diseases would have developed them if they had not been born with some point of least resistance in the gray matter of the cord. He desired to call attention to the fact, that degeneration of the gray matter was not always followed by that degeneration of the white fibers which one would expect from that close association between the two which is assumed by the neuron theory.

Dr. J. Ramsey Hunt said that Dr. Spiller of Philadelphia, had reported a case of amyotrophic lateral sclerosis of very acute onset. He found degenerations in the association tracts of the cortex, and suggested this was the anatomical basis for many of the mental symptoms not infrequently described.

Dr. Louis Faugere Bishop said he had at the present time, in his hospital service, a woman with well-marked amyotrophic sclerosis and the husband with right hemiplegia. The latter developed last. He was disposed to think that both had a common cause, probably syphilis.

Dr. Collins, in closing, reiterated his belief that spinal progressive muscular atrophy and amyotrophic lateral sclerosis are different clinically, etiologically and pathologically. To him the special feature of interest was that in some cases there was a transitional stage in which the lesion was limited to the commissural cells binding together different portions of the cord. He saw nothing in abyotrophy which had any bearing upon amyotrophic lateral sclerosis. The latter was an acute, violent infection. Weak persons generally were spared, he thought, all through life from acute intoxications or infections. The etiological factor of the disease would probably be determined by the physiological chemist.

BOOK REVIEWS.

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics and Toxicology in Cornell University Medical College in New York. Fifth Edition. William Wood & Co., New York.

This volume has lived a larger life than the usual text-book and it still retains much of its pristine vigor. The foundations of chemistry modify slowly, so that a general work of this character may be neglected in its revisions without much serious detriment to the average student body, but in the present instance the author has been alive to the modifications going on in the chemist's environment and has revised the work very thoroughly. This is particularly true of the sections bearing on physiological chemistry, although this section of the book may be said to be the least up to date and in need of a more thoroughgoing revision.

Taken as a whole, the work amply justifies the production, and we wish it many more years of usefulness.

Diabetes Mellitus. Its Treatment and its Cure. Clinical Reports by Various Authors. Charles Roome Parmele Co., New York.

This is an extremely interesting and suggestive brochure, bringing together from the regular medical press, a large number of clinical experiences relative to the treatment of diabetes mellitus.

From the evidence adduced there seems little doubt that some hope of cure may be offered to certain selected cases of marked diabetes mellitus.

Der Hypnotismus. Handbuch der Lehre von der Hypnose und der Suggestion. Mit besonderer Berücksichtigung ihrer Bedeutung für Medecin und Rechtspflege. Von Dr. R. Löwenfeld; Specialarzt für Nervenkrankheiten in München. J. F. Bergmann, Wiesbaden. G. E. Stechert, New York.

With the gradual increasing interest taken in the psychic there have not been wanting practical manuals presenting our present day knowledge in this fascinating field.

One of the most interesting that we have seen is this of Löwenfeld's, which at the same time is eminently scientific as well as readable.

The subject-matter is discussed in 18 chapters, the entire work being a trifle over 500 pages. The chapters are as follows; Historical, Suggestion, Suggestibility, Hypnosis and Sleep, Hypnotisability, Technic of Hypnotization, Normal Hypnosis, Pathological Hypnosis, Other forms, Post-hypnotic Occurrences, Somnambulism, Conditions Related to Hypnosis, Hypnosis in Animals, Theoretical Hypnosis and Suggestion, in their relation to Medicine, and to Law, Hypnotism and Psychology and Suggestion and its importance to the psychical life of the masses. A retrospect certainly inclusive enough for the most painstaking student.

The space at command does not warrant a complete analysis of this work. Its complete perusal leaves one with the sense of its being an extremely able and forceful book well worthy of commendation.

Biological Laboratory Methods. By P. H. Mell, Ph.D., Director of Alabama Experiment Station, Professor of Geology and Botany, Alabama Polytechnic Institute. The Macmillan Co., New York.

The establishment of experimental stages in connection with the various colleges has given such an impetus to biological research that the demand is becoming greater each year for suitable text-books. Most of the works in existence are either too voluminous or are devoted to special subjects, so as to make them entirely inadequate for the beginner. It has been the aim of this book to treat of all important matter relating to this subject in simple language and with sufficient detail. This aim, we think, has been reached. We find not merely a record of the different biological methods, but the best of these are discussed in detail, thus saving the student much labor. The first chapters are devoted to the microscope and its accessories, then follows a very careful description of mounting, imbedding and staining. Photomicrography, bacteriology and the application of polorized light to biological methods have separate, well-written chapters. Useful formulæ and an article on the arrangement of the laboratory are appended. The work is thoroughly up-to-date.

The Nose and Throat in Medical History. By Jonathan Wright, M.D. The Laryngoscope Publishing Company, St. Louis, Mo.

J. Déjerine, Professor of the History of Medicine in the Paris Faculty of Medicine, in his inaugural address on the historical evolution of medicine, states that of several methods in which the history of medicine may be taught, he proposes to adopt that of *confining himself to one organ or group of diseases*. In this he unconsciously pays a high tribute to Dr. Jonathan Wright's "The Nose and Throat in Medical History." The author's aim is "to bring into prominence those gleams of light thrown upon our subject which have come to us across 25 centuries." But he has not been content to give alone the evolution of this specialty in history, he has sought to relate it in proper setting to the progress in general medicine. Not only so, but he has also given us the philosophy of this evolution by devoting "an unusual amount of space" to the political events "which are connecting links in the progress of civilization." He asserts that progress in medicine is conditioned on liberty and cites the present mental and political slavery "not only of an Oriental, but of a once glorious Occidental race" and adds that "since the dawn of history western medical knowledge * * * has scarcely produced a ripple on the stagnant pool of Hindu medicine." He further states "The spectre of Orientalism still haunts us;" "it is the ever present foe of civilization."

One wonders at the patient research which he has been willing to make to produce this excellent book, bristling everywhere with his own virile thought and enlivened by his scathing arraignment of all forms of dishonesty and quackery in medicine. His burning love of truth and his impatience with every influence that conceals it is commendable. One can even understand his bias against etiology when realizing, as he does, how inordinately "eager has always been the search of etiology in medicine," even though in it, like Aretæus, one "gropes in the dark very much as men have done in all ages when seeking after the causes of phenomena." Yet we are in accord with him when he says that "everywhere and always in medicine the progress has been one of advance in differentiation." Nor do we fear that his disparagement of the eager search for etiology will lessen the useful potency of this stimulus. It is charming to note how naïvely he almost conceals from view his own contributions to definite knowledge in pathology and charitably sees how "our knowledge has been built up * * * by the patient, painstaking, laborious exertions of many generations of earnest men," and claims, "it is a vast education for any man when he can be brought to realize, in this egotistical epoch, how little of it after all has had its origin in his day and generation." Again, "In the century which now opens before us the drama of two civilizations played on the stage of the world for 2,500 years by the immortal gods is, let us hope, drawing to a close." Surely, the author of such a history of a branch of medicine will find many readers of his well-written book.

Elementary Hygiene for the Tropics. By Azel Ames, M.D., (Harv., 1871), late Major and Brigade Surgeon, U. S. Vols., Director of Vaccination, Military and Civil Sanitary Inspector, Department of Porto Rico. D. C. Heath & Co., Boston.

This interesting book details on 180 pages such rules as combat sickness in the hot climates. Its extremely elementary text is rendered still more simple by a number of tables and by a series of questions appended to every chapter so that not even a child would have difficulties in mastering the facts. There is little in the book which every physician does not know, yet we predict it will form interesting as well as instructive reading for the layman who intends to live in the South. The young, for whom the book was primarily intended, will, no doubt, learn to appreciate health from its perusal. For the natives of our new possessions it is an exemplary text-book.

Saunders' Question Compends: Essentials of Histology. By Louis Leroy, B.S., M.D., Professor of Histology and Pathology in Vanderbilt University, Medical and Dental Departments; Bacteriologist to the State of Tennessee; Pathologist to Nashville City Hospital, etc. Second Edition, Thoroughly Revised and Greatly Enlarged. W. B. Saunders & Co., Philadelphia and London.

The main intention in writing this book, has been to collect within a limited space, and in a convenient form the essential facts in histology without sacrificing clearness and intelligibility by too great condensation. A number of new and original illustrations have been inserted in this new edition, to better elucidate the text. The chapter on technic has been enlarged, a description of the appendix and rectal valves added and the entire book carefully revised. The demand for a second edition in so short a time, is sufficient recommendation.

Compend of Special Pathology. By Alfred Edward Thayer, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College; Pathologist to the City Hospital, formerly Fellow in Pathology, Johns Hopkins University; Instructor in Anatomy, Yale Medical College, and Professor of Pathology and Bacteriology, West Virginia University. P. Blakiston's Son & Co. Philadelphia.

Though pathology is a subject not to be studied from the condensed treatises, this compend will be of great use to students preparing for examination. Its text is accurate and sufficiently full to give a clear idea of the various pathological processes. The illustrations are rather scant for a work of this character, and more microscopical reproductions might have been added to advantage, since not all colleges give their students opportunities to study slides. What is best of late theories receives sufficient mention. On the whole, the book does not fall below the standard of the series.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, etc., and F. F. Burghard, M.D., F.R.C.S., Teacher of Practical Surgery in King's College, London, etc. In seven volumes. Volume VI. The Treatment of the Surgical Affections of the Tongue. Floor of the Mouth, The Pharynx, Neck, Œsophagus, Stomach and Intestines. Lea Brothers and Co., Philadelphia and New York.

The authors have found it impossible to cover the entire field of surgery in six volumes, as was their original intention, and the present volume of the series, instead of concluding the series, is to be followed by a seventh, which will embrace the surgery of the nervous system.

The volume before us is one of the best of the set thus far published. We pass over the first part of the book, noting merely that the typical and classical operations upon the neck and the upper part of the gastro-intestinal tract are described fully and thoroughly. Franch's, Witzel's and Albert's methods of gastrostomy are described in detail and the use of Mayo Robson's decalcified bone bobbins and the Murphy button are described fully by text, diagram and illustration. The completest chapter is on intestinal obstruction, all phases of this variety of surgical disease being considered. Methods of operation at different stages and for the different causes of obstruction are minutely gone into, and the after-treatment is thoroughly discussed, as it is in all phases of surgical treatment throughout the entire series. We note the omission of intestinal exclusion in which much work has been done by American and German surgeons.

In the discussion on appendicitis, the authors seem to hesitate about advising the removal of an appendix which has been but once the seat of a so-called "catarrhal" inflammation; but they urge its removal after a second attack. In all other respects their teaching on this subject is in harmony with that of American surgeons: it is insistent upon the prompt and careful removal of the appending organ once it has given rise to severe symptoms. In cases of appendicular abscess, they believe it a proper procedure to search for the organ.

The illustrations in this volume are for the main part original and are well descriptive of the clear text. The book is an especially notable addition to surgical literature and when completed, the set will rank as a unique and important adjunct to the library of every practitioner who is called upon to do surgical work

A Compend of Human Physiology. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Eleventh Edition. P. Blakiston's Son & Co. Philadelphia.

A work which has reached 11 editions, even a Quiz Compend, needs no special commendation from the reviewer's pen. The reception accorded it is sufficient test of its value, yet Dr. Brubaker has been enabled to compress within this volume much more than is contained in the average Quiz Compend. He has really written an excellent small work on physiology, much superior in many respects to more ambitious treatises.

Diseases of the Skin. A Manual For Students and Practitioners. By Alfred Schalek, M.D., Instructor in Dermatology, Genito-Urinary and Venereal Diseases, Rush Medical College. The Medical Epitome Series, Edited by V. C. Pedersen, A.M., M.D. Lea Brothers & Co., Philadelphia and New York.

The aim of the author of this very handy little volume of 220 pages has been to set forth the cardinal facts of dermatology as they are understood by the best authorities of the present day. The alphabetical arrangement was chosen for the body of the work because of the lack of finality in the prevailing classification of cutaneous disorders from the standpoint of pathology. The form which has been selected no doubt facilitates reference. Those who care for it will find included a prelimenary schematic grouping of diseases of the skin as inflammations, hemorrhages, hypertrophies, atrophies, new growths, neuroses, diseases of the appendages of the skin and parasitic affections. The value of a work so condensed as this must depend largely on a judicious proportioning of the various subdivisions. The author is to be congratulated on his successful treatment of this phase of the work. It is noticeable that the more important and more frequent disorders are accorded full treatment as to symptomatology, diagnosis and treatment, and hence the practical value of the book will be as great to practitioners as to students.

The introductory chapters succinctly describe the anatomy of the skin and the constitutional and local symptoms encountered in dermatological practice. The general rules for diagnosis, internal therapeutics and local treatment are pithily stated before the discussion of individual diseases is begun. The diagrammatic representation of the lesions of the skin is a device which will prove useful to beginners. A knowledge of synonyms is nowhere more necessary than in present-day dermatology; in this book synonyms are freely given. In common with other volumes of this series, questions which render the book suitable for quizzing are gathered at the end of each chapter; the continuity of the text is unbroken.

American Edition of Nothnagel's Practice. Diseases of the Bronchi and Pleura; Pneumonia. Diseases of the Bronchi. By Dr. F. A. Hoffman, of Leipsic. Diseases of the Pleura. By Dr. O. Rosenbach, of Berlin. Pneumonia. By Dr. F. Aufrecht, of Magdeburg. Edited with additions, by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. W. B. Saunders & Co., Philadelphia and London.

This fourth volume of the American edition of Professor Nothnagel's series of text-books on the practice of medicine is an excellent example of American bookmaking. The Nothnagel series has been given a very worthy setting in its English dress. The present volume derives not a little of its practical value from the additions made by Professor Musser, for Professor Musser has taken the editorship not as a sinecure but as a responsible post from which to introduce noteworthy improvements. Such chapters as that on bronchiectasis are made much more practical by reason of Professor Musser's notes.

Certain additions have been made to all of the main treatises. The editor announces that new matter has been incorporated into the section on pneumonia, including the recent work of Hutchinson and others on the blood and urine in that disease. In the section on pleurisy, there is an added account of the most recent bacteriological investigations of this evermore important disease, besides references to the work of Morse on the leucocytes in pleurisy. Special notice has been taken of Doctor Williams' (of Boston) work on the X-ray diagnosis of various lung phenomena and special attention has been given to the Litten phenomenon.

Two articles in the present volume, those on bronchitis and pneumonia, are timely. The article on bronchitis by Professor Hoffman of Leipzig, is a masterly monograph on a subject that, notwithstanding its practical character and the frequency with which knowledge concerning it must be applied by the physician, is only too little understood. The completeness of Hoffman's treatment of it may very well be judged from the forms of bronchitis which he enumerates. They are 13 in number from bronchitis acute, due to injury or catching cold, to bronchitis in diseases of the skin. Professor Musser adds, Fowler and Godlee's classification into acute, chronic secondary and plastic bronchitis. The etiology and treatment of bronchitis are discussed with special completeness.

Professor Aufrecht's article on pneumonia is, like the article on bronchitis, another excellent example of how thorough a German is in doing his work. There is not a bit of information of any importance with regard to pneumonia that does not find a place here. Dr. Musser has been especially careful in bringing the chapters on croupous pneumonia and its treatment thoroughly up to date. The recapitulation of the treatment of an ordinary case of pneumonia in a single paragraph is an excellent example of compression of a host of therapeutic directions, all very practically suggestive.

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